Clinical Medicine

Original Articles for June, 1955

TABLE OF CONTENTS

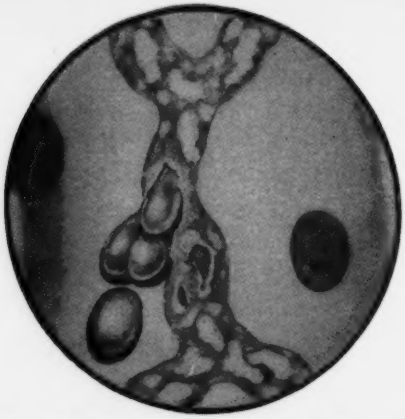
Vol. 2 JUNE, 1955 No. 6

EDITORIAL

ORIGINAL ARTICLES

CURRENT LITERATURE

(Continued on next page)



Rupture of intercellular cement results in capillary hemorrhage

in bleeding...

A rational way to help arrest and prevent bleeding due to abnormal capillary permeability and fragility in: uterine bleeding, purpura (nonthrombocytopenic), chronic nosebleed, ecchymoses, and certain other forms of internal bleeding associated with capillary fault.

C.V.P. helps to:

diminish abnormal capillary permeability and fragility

strengthen the resistance of fragile capillaries safely, dependably

CVP

provides the soluble natural bioflavonoid compound (sometimes referred to as "vitamin P complex") derived from citrus sources, combined with ascorbic acid. C.V.P. is water-soluble and is believed to be more consistently dependable than relatively insoluble rutin.

The capillary protectant qualities of C.V.P. are widely applicable to help prevent and treat increased capillary permeability and bleeding due to capillary fault in diabetes, retinopathies, nonthrombocytopenic purpura, threatened and habitual abortion, functional uterine bleeding, radiation injury, etc. C.V.P. is safe . . . exceptionally well-tolerated.

Each capsule or teaspoonful (approx. 5 cc.) of syrup provides:

Citrus Flavonoid Compound . . .	100 mg.
Ascorbic Acid (vitamin C)	100 mg.

Bottles of 100, 500 and 1000 capsules;
4 oz., 16 oz. and gallon syrup

Samples (capsules or syrup) and literature from...

U. S. vitamin corporation
Arlington-Funk Laboratories, division
250 East 43rd Street, New York 17, N.Y.

TABLE OF CONTENTS *(Continued)*

MANUSCRIPTS should be addressed to The Editor, *Clinical Medicine*, P. O. Box M, Winnetka, Illinois. Manuscripts accepted only with the understanding that they are contributed exclusively to *Clinical Medicine*. Manuscripts should be typed double or triple-spaced, on one side of the paper only. Drawings or photographs will be reproduced at no cost to the author. Bibliographic references should be kept to a minimum.

REPRINTS Authors will be furnished reprints at cost. Manuscripts, when accepted become the exclusive property of *Clinical Medicine*.

EDITORIAL

How to Use Laboratory Procedures to Best Advantage

Laboratory procedures do not serve as a substitute for a careful history and physical examination

JAMES M. NORTHINGTON, M.D., *Editor*

Most laboratory procedures are done for confirmatory purposes; they are not to serve as a substitute for a careful history and physical examination. Since tests are essential and expensive, they should be carefully selected, accurately performed, and critically interpreted. Abuses of laboratory procedures are abuses of the patient.

To obtain suitable specimens the laboratory must inform, in writing, physicians and nurses in the technics necessary. This should include what laboratory services are available, when the patient should be fasting, where to place specimens in the laboratory, and how to request services. Detailed information on specific tests should be outlined.

Every request with specimen to be cultured should specify the type of organism suspected. Since it is difficult to avoid contamination in collecting urine specimens, a micro-organism obtained on culture should be considered causative *only* when it has been cultured *repeatedly*, and there is corroborating evidence in the urine for the presence of infection. In liver disease the laboratory findings especially must be correlated with the history and physical findings. In cases of jaundice the history before, at the onset, and after the appearance of icterus is probably more important than laboratory results several weeks later. Tests to measure secretory capacity of the liver, e.g., bromsul-

phalein, are of no value in shock, congestive failure, hemorrhage and trauma.

Ordinarily determination of only total serum protein is of limited value, for serum albumin may be decreased and serum globulin may be elevated yielding a normal value for the total serum protein. Usually the total serum protein and the albumin-globulin ratio together are necessary in the study of serum proteins.

As a screening test for blood the use of benzidine dihydrochloride appears to be the most desirable.

AVOIDANCE OF LABORATORY TESTS

A wider practice of gross inspection of effusion fluids, feces, sputum, vomitus, urine, and other products of the body would frequently avoid the need and expense of laboratory tests. Gross and microscopic examination of feces for evidence of fat and undigested meat should be made in suspected cases of pancreatic insufficiency before complicated tests are ordered.

A red cell count will vary +15% in average laboratories. A person with a 4,000,000 red cell count may be reported from 3,400,000 to 4,600,000. The lower count may lead to a useless transfusion. To a lesser extent the same type of error obtains in white cell counts.

Hemoglobin error by Tallquist is +10 to 30%; by Sahli as much as +15%, by photo-electric colorimeter +5%. Determinations by the photo-electric colorimeter are fraught with a greater number of technical difficulties, and require carefully controlled conditions and specially skilled technicians.

The differential count on leukocytes is subject to an error of +10%, though very little in the hands of expert technicians. The packed cell volume (hematocrit) is simple to perform and is the most accurate test to be used in screening patients for anemia or polycythemia. It, combined with a sedimentation rate, and differential count should replace the complete blood count.

Bone marrow examinations are not needed, (except prior to splenectomy for thrombocytopenic purpura) until no diagnosis can be made by study of the peripheral blood or by other simpler means.

UNNECESSARY TRANSFUSIONS

The wastage of blood, some say, constitutes 30% of all transfusions to make the patient feel better or make him think something is being done. The author knows of 3 needless deaths from transfusion reactions when blood was given "just for good measure" without substantial indications for it.

The history and physical examination will make the diagnosis in 75% of cases. In the remaining 25%, the minimum laboratory procedures necessary to prove the diagnosis definitely and safely should be carried out.

M. L. Trumbull. *J. Tennessee M. A.*, Oct., 1954.

ORIGINAL ARTICLES

The Treatment of Nonspecific Urinary-Tract Infections

A thorough and prolonged treatment with the proper agents and antibiotics, adequate fluid and frequent urine studies show the best results

C. R. MARQUARDT, M.D.,* *Milwaukee, Wisconsin*

BETTER RESULTS NOW

Various new drugs and antibiotics have reduced the morbidity and mortality in urological surgery and urinary tract infections to a small percentage of the former rates. Pyelonephritis, a common cause of death years ago is now seldom fatal. We all continue to hope for greater advances, although a word of caution seems timely.

NOT ALL BENEFICIAL

The initial finding of bacteria completely resistant, the development of resistant bacterial mutations during treatment, and the increasing incidence of serious reactions, particularly to the antibiotics, offer serious concern for the future.

ETIOLOGY

The three great contributing causes to most urinary-tract infections are stones, stasis and focal infection. Stasis may be produced by cystocele, diverticulum, prostatic obstruction, stricture of the urethra, bladder tumor, hydronephrosis with infection, or congenital anomalies. Whenever there is a mechanical interference with the free flow of urine from one or both kidneys, infections are apt to supervene. Stasis and infection favor stone formation.

As to focal infection: pyelitis in infancy frequently follows dysentery; pyelonephritis is often secondary to acute tonsillitis, GI, gall-

*Chief of Urology, Deaconess Hospital, Milwaukee Wisconsin.

bladder, and upper respiratory infections, infected teeth, and infections of the accessory urinary-tract glands.

BACTERIOLOGY

Infections within the urinary tract may be gram-negative or gram-positive. The most common nonspecific infections are E. Coli, Streptococcus fecalis, Pseudonomas aerogenes, B. proteus, Staph. albus and aureus, K. pneumoniae, M. tetrogenus, Strep. hemolyticus, B. subtilis, and rarely typhoid or paratyphoid bacillus. Initial cultures often show multiple micro-organisms, and in 20% of these cases a change in bacterial flora occurs while the patient is under treatment.

DIAGNOSIS

Irrespective of the condition for which a patient is being treated, an attempt should be made to determine the cause of any abnormalities in the urine. Antibiotics have made detailed studies unnecessary for many patients with urinary infections; but for those with recurrent or resistant infections, every diagnostic resource is needed.

The tests necessary for management of urinary-tract infections are office procedures: urinalysis — including spe. gr. and pH — a gram stain of the sediment, *IV* pyelocystograms, kidney function tests, and B.P. determinations. Search for focal infection includes inspection of the cervix, and after the infection has subsided, palpation of the prostate gland and examination of the secretion. In the female with chronic or recurrent infections inspection of the urethra will frequently reveal chronic infection and polypoid tissue at the internal orifice. This may require urethral dilatation, silver nitrate instillation, or fulguration.

The pH of the urine is important. The majority of organisms found in *acid* urine respond well to treatment, whereas those in an *alkaline* urine are most difficult to combat. Some drugs for urinary infections are effective only in an acid urine, others act best in an alkaline medium. If a patient's output is two - thirds his intake, and specific gravity of the urine is normal, the kidney function is usually good.

The voided urine from the female always contains bacteria and may contain pus from the cervix, vagina and adjacent glands, so only a catheter specimen gives accurate information. Urethritis, prostatitis and seminal vesiculitis in males may account for pus in the first portion voided. Only the last portion of a two-glass test should be used for microscopic studies.

A gram stain and the microscope will indicate whether the infection is bacillary or coccal, gram-negative, or gram-positive. In most cases further bacteriological study is not necessary. Cultures and sensitivity tests will help toward proper choice of urinary antiseptics. With increasing frequency, we are seeing infections resistant to all antibiotics, or so resistant to many of them that treatment goes on for months before a proper drug is selected. Persistence and recurrence of infections are often results of such complications as obstruction, calculi, tumors, and resistant organisms.

TREATMENT

Systemic manifestations of urinary-tract disease demand bed rest, in hospital if feasible. In the presence of sepsis, catheterize only when necessary for drainage. Delay diagnostic studies involving instrumentation until the sepsis is controlled, unless diagnosis cannot be established without cystoscopy.

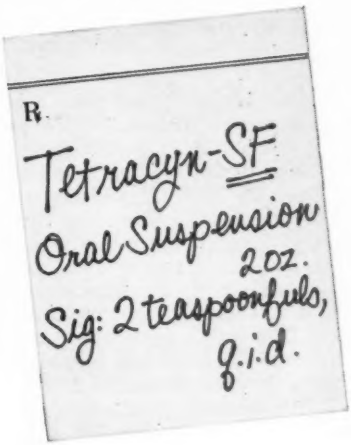
The fluid intake should be 3,000 to 4,000 cc. in 24 hours. If the patient has fever, or if there is stasis

When you specify the Pfizer antibiotic of your choice *Stress Fortified* with the B-complex, C and K vitamins recommended by the National Research Council, be sure to write **SF*** on your prescription

antibiotics *Stress Fortified* with vitamins include:

®Terramycin-SF
Brand of oxytetracycline with vitamins
CAPSULES 250 mg.

®Tetracyn-SF
Brand of tetracycline with vitamins
CAPSULES 250 mg.
ORAL SUSPENSION (fruit flavored)
125 mg./5 cc. teaspoonful



The minimum daily dose of each antibiotic *(1 Gm. of Terramycin or Tetracyn, or 600,000 units of penicillin)*
Stress Fortifies the patient *with the stress vitamin formula* **recommended by the National Research Council:**

Ascorbic acid, U.S.P.	300 mg.	Calcium pantothenate	20 mg.
Thiamine mononitrate	10 mg.	Vitamin B_{12} activity	4 mcg.
Riboflavin	10 mg.	Folic acid	1.5 mg.
Niacinamide	100 mg.	Menadione	
Pyridoxine hydrochloride	2 mg.	(vitamin K analog)	2 mg.

**Trademark*

Pfizer

PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.*, Brooklyn 6, N.Y.

of urine, insert a small inlying urethral catheter. Foci of infection in teeth, tonsils, sinuses, cervix or prostate should be treated.

Mandelic Acid is effective against the majority of the bacillary infections associated with an acid urine (pH 5.5 or below), almost specific against Streptococcus faecalis, but is not effective against most coccal infections. The desirable acidity of the urine may be maintained by ammonium chloride or sodium acid phosphate. Mandelic is given as the elixir, syrup or tablet. Three or four tablets 4 i.d., for 10 to 14 days is an adequate course. If results are poor, change to another drug. Examine the urine frequently; stop the drug if albumin, red blood cells, or casts are found in urine that has not contained these elements previously.

The *sulfonamides* most widely used are sulfadiazine, gantrisin, sulamyd, elkosin and thiosulfil. These drugs are effective against the majority of gram negative bacilli which invade the urinary tract, and against most of the gram-positive cocci (not Strep. faecalis). They are effective in acute and chronic infections, and in both acid and alkaline urine, though it is best to keep the urine alkaline. The sulfonamides are absorbed in the GI tract and eliminated chiefly by the kidneys. In patients with normal renal function the best concentration of the drug is readily obtainable; therefore, large doses are not necessary in uncomplicated urinary infections. The usual dosage is 0.5 to 1.0 gm., q.i.d

REACTIONS

On occasion, sulfa reactions may be serious. Digestive disturbances, jaundice, urticaria, anemia and fever are the most common reactions. If the drug is causing the fever, the WBC will be normal or below, and temperature promptly returns to normal as the drug is discontinued.

The serious reactions to the use of the sulfonamides are seen in the kidney. Precipitation of the crystals in the renal tubules may reduce the secretion of urine, even to anuria, without causing pain. In such cases the drug must be discontinued; adequate fluid, with alkalinization, will usually accomplish the desired result. Crystals precipitated below the papillae, may cause renal colic, may even block one or both ureters, with ureteral colic and all the signs of renal obstruction. These patients may require ureteral catheterization in addition to fluids and alkalis. The other kidney reaction is degeneration of the renal tubules.

CAREFUL STUDY AND OBSERVATION

Such reactions cannot be anticipated, but preliminary study and careful observation while the drug is being given will prevent most of the more serious complications. A daily intake of 3,000 cc. of fluid, with the use of small doses of sulfonamides offers the greatest assurance against a severe toxic reaction. The output must not be allowed to drop below 1,000 cc. in 24 hours.

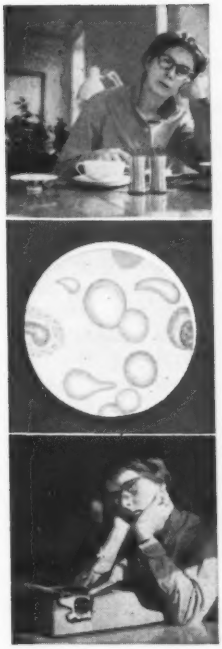
WHEN TO DISCONTINUE

If crystals appear in the urine and particularly if there is gross hematuria and reduced urinary output, the drug must be promptly discontinued. Reduced renal function does not necessarily contraindicate the use of sulfonamides, but more careful supervision is required. If improvement is not noticed in the first week of treatment, as determined by microscopic study of the stained specimen, other urinary antiseptics should be substituted. It would seem that various combinations of sulfonamides have no advantage over the single drug.

OTHER DRUGS

Pyridium has a soothing effect and

MORE THAN A HEMATINIC



HEPTUNA PLUS will correct most common anemias, of course.

But as you know, anemia is usually only one manifestation of a complex deficiency picture.[1-3]

So to HEPTUNA PLUS' potent hematopoietic factors, we've added vitamins A and D, the complete B complex, and 10 important minerals.

Is it a refractory anemia case? Try HEPTUNA PLUS.

HEPTUNA® PLUS

EACH SOFT, SOLUBLE CAPSULE CONTAINS:

Ferrous Sulfate, Dried, U.S.P.*	199 mg.
Vitamin B_{12} U.S.P.	5 mcg.
Folic Acid, U.S.P.	0.33 mg.
Ascorbic Acid, U.S.P.	50 mg.
Cobalt (from Cobaltous Sulfate)	0.1 mg.
Copper (from Cupric Sulfate)	1 mg.
Molybdenum (from Sodium Molybdate)	0.2 mg.
Calcium (from Dicalcium Phosphate)	37 mg.
Iodine (from Potassium Iodide)	0.05 mg.
Manganese (from Manganous Sulfate)	0.033 mg.
Magnesium (from Magnesium Sulfate)	2 mg.
Phosphorus (from Dicalcium Phosphate)	29 mg.
Potassium (from Potassium Sulfate)	1.7 mg.
Zinc (from Zinc Sulfate)	0.4 mg.
Vitamin A (Fish Liver Oil)	5,000 U.S.P. Units
Vitamin D (Tuna Liver Oil)	500 U.S.P. Units
Thiamine Hydrochloride, U.S.P.	2 mg.
Riboflavin, U.S.P.	2 mg.
Pyridoxine Hydrochloride, U.S.P.	0.1 mg.
Niacinamide, U.S.P.	10 mg.
Calcium Pantothenate	0.33 mg.
Desiccated Liver N.F. (undefatted)	150 mg.

*Equivalent to 4.5 gr. Ferrous Sulfate U.S.P.

1. Cecil, R.L., and Loeb, R.F.: A Textbook of Medicine. W. B. Saunders Co., Philadelphia, 1953, p. 1012, 2. McLester, J.S.: Nutrition and Diet in Health and Disease. W. B. Saunders & Co., Philadelphia, 1949, p. 636. 3. Ibid., p. 627.

DOSAGE: one to four capsules daily, after meals.

SUPPLIED: bottles of 30 and 100 soft, soluble capsules.

Rx OERIG

CHICAGO 11, ILLINOIS

is of value when other preparations have failed to lessen symptoms.

Penicillin is not suitable for routine use in the treatment of common urinary tract infections. In acute infections due to gram-positive cocci which are known to be sensitive to penicillin, satisfactory results may be obtained.

One-half of the patients with uncomplicated infections of the urinary tract due to the colon bacilli are cured by *streptomycin*. This has the disadvantage of obscuring tuberculosis. Infection due to the Proteus ammoniae and Aerobacter aerogenes also responds well to this drug. The gram-positive cocci are best combated by other drugs. In most cases, the *IM* administration of 0.5 gm. q. 12 h. for 7 to 12 days will cure the infection if the invading organism is streptomycin sensitive. However, since many bacteria alter their sensitivity to streptomycin after long exposure, better results will be obtained if larger doses are given after the first days. It is best to determine the sensitivity of organisms to the drug before treatment is started. The usual reaction to streptomycin is mild and unimportant. The more serious reactions of tinnitis, vertigo, impaired hearing and renal damage may persist for months after treatment is discontinued, even permanently.

Aureomycin, Chloromycetin and *Terramycin* are considered together. They are effective against the majority of organisms which invade the urinary tract. They are directly absorbed from the GI tract and appear in the urine in sufficient concentration within one hour after administration. Since Chloromycetin is most rapidly absorbed and excreted, it must be given at more frequent intervals. Aureomycin is more slowly excreted, therapeutic levels in the urine have been noted 30 hours after its discontinuation. The usual dose of these drugs is 50 to 250 mg. at 6-hour intervals.

Achromycin and *Erythromycin* might also be considered with this last group of drugs. Erythromycin is particularly effective against the St. aureus. The toxic reactions to the molds are almost entirely systemic, most commonly referable to the GI tract. Cramps, diarrhea, nausea, vomiting, stomatitis and ulceration of the entire GI tract may occur. This is particularly true from the use of Aureomycin, Chloromycetin, Terramycin and Achromycin.

Furadantin is much employed in the treatment of urinary tract infections; where the organisms are sensitive, it is effective. It may produce testicular damage.

Aureomycin and *Terramycin* may produce fatalities by alterations of the bacterial flora of the intestinal tract. If infections do not respond in 48 hours, they are probably resistant.

Whenever agents apt to produce a sterilization of the GI tract are used, treatment should be promptly discontinued if diarrhea occurs. The patient with a urinary-tract infection and fever is best kept at rest until afebrile for 24 hours. Test the urine at frequent intervals. If the gram stain still shows pus, bacteria treatment should be continued. If the urine appears free of bacteria, it is well to have a culture following the cessation of all treatment. If culture is positive continue treatment in an endeavor to bring it to negative. In some cases this is never accomplished, and such patients may have recurrence shortly after cessation of treatment. These patients may take a small dose of an effective drug for an indefinite time. Many people have taken one or another of the sulfonamides for years without any ill effects.

PRACTICAL SUGGESTIONS

This thesis is written for the doc-

tor who is called upon to treat urinary-tract infections under adverse circumstances, to see the patient in the night, the patient who refuses hospitalization, in communities without adequate laboratory facilities. In acute infections, he can emphasize bed rest, adequate fluid intake, daily bowel evacuation, measurement of fluid intake and output, daily inspection of the urine in a clear transparent container, proper temperature recordings, adequate food intake, and study of properly collected urine specimens.

NO "BEST" URINARY ANTISEPTIC

The question "which is the best urinary antiseptic to use?", cannot be answered categorically. No one preparation stands out far in front, and not infrequently the organism is resistant to all the new drugs.

If the urologist who sees many chronic and recurrent infections, routinely employed any one preparation, his treatment would fail in at least half of his cases. If the underlying cause is corrected, some such infections will correct themselves. All too frequently, however, instrumentation, catheter drainage, or surgical procedures upon the urinary tract, leave it with infections difficult to eradicate. Prophylactic medication, the use of small instruments and of sterile catheters all decrease the hazard of beginning an infection.

IN CERTAIN CASES FOREGO USE OF "NEW" DRUGS

If the history and physical examination foretell probable surgical intervention, it is best to forego the use of the sulfas and antibiotics, since their immediate use may preclude their usefulness at a more important period in the management. If this seems unlikely, mandelic acid or one of the sulfas should be the drug of choice. If one of the molds is employed, achromycin is a suitable broad-spectrum choice. The concurrent use of buttermilk reduces the incidence of GI disturbances, particularly diarrhea.

SUMMARY

1. Each patient with a urinary-tract infection should be adequately studied to determine whether focal infection, stasis of urine, or stone may be the cause of the infection. A good history will frequently reveal long - standing symptoms that will reveal the diagnosis.
2. The patient should receive adequate fluid; frequent urine studies are advisable.
3. *IV* pyelography is a valuable screening procedure in many cases. We must be aware of its limitations. Renal or bladder tumors, tuberculosis and nonopaque urinary tract stone may be overlooked or not clearly defined.
4. Instrumentation of patients with acute infections is not advisable except to facilitate urinary drainage.
5. Bed rest is desirable for all febrile patients.
6. Treatment should be continued long after the patient is relieved of symptoms and until the urine is negative to cultures without the use of a urinary antiseptic. Before treatment is discontinued, the prostate gland should be checked, and the urethra gently dilated, so that any infected periurethral glands will be drained. Inadequate treatment predisposes to chronicity and recurrence.
7. The best results are obtained when the drug used in treatment of the infection is demonstrated by sensitivity test to be the most effective.

for happy travel

BONAMINE* HCl

Brand of meclizine hydrochloride

chewing tablets

the NEWEST prescription for travel freedom from motion sickness

BONAMINE CHEWING TABLETS—the *only* motion-sickness medication which

(1) is pleasantly mint flavored, acceptable to children and adults who dislike taking pills
(2) is rapidly effective (most of the medication is extracted by 5 minutes of chewing)
(3) requires no water for administration
(4) promotes salivation and maintains the normal downward gastrointestinal gradient.

Well-tolerated BONAMINE is uniquely effective in a single daily dose. Notably free from side reactions.

BONAMINE medication is also indicated for the control of vertigo associated with vestibular and labyrinthine disturbances, cerebral arteriosclerosis, radiation therapy, Menière's syndrome and fenestration procedures.

BONAMINE CHEWING TABLETS contain 25 mg. of Bonamine each and are supplied in packets of 8, individually wrapped.

Also supplied as BONAMINE TABLETS of 25 mg. each, scored and tasteless, in boxes of 8 and bottles of 100 and 500.

*Trademark

Pfizer

PFIZER LABORATORIES, Brooklyn 6, N. Y.
Division, Chas. Pfizer & Co., Inc.

Effective Treatment for Traumatic and Inflamed Lesions Using Trypsin

Uniformly good results were reported from investigations for cases of acute local infection; slower relief for the more chronic cases

HAROLD T. GOLDEN, M.D., *Herkimer, New York*

EARLY EXPERIENCES

Clinical experience with intramuscular (IM) trypsin have developed since first mention by Innerfield, Angrist and Schwarz in 1953, to include evaluation in acute thrombophlebitis,[1,2,3,5] chronic thrombophlebitis,[2,4] arthritis,[8] diabetic cellulitis,[5] ocular inflammation,[6,7] extraocular trauma,[7] and other inflammatory states.[3] Good to excellent results have been reported by all investigators for the rate of subsidence of acute local inflammation. In the more chronic states, results are slower and more difficult to evaluate.

In a paper reporting the clinical results obtained from intravenous (IV) infusions of trypsin, Innerfield et al.[1] included 13 patients treated with IM trypsin in a total of 538 cases. They concluded that trypsin was indicated in inflammation regardless of etiology and, tentatively, that the IM route was as effective as IV infusions in acute thrombophlebitis, the only condition in which comparison was made.

Similarly, Fisher and Wilensky[2] studied the effect of trypsin in thrombophlebitis, starting with IV infusions and switching to IM injections. In an addendum, they dis-

1. Innerfield, I., et al.: *J.A.M.A.*, 152: 597, 1953.
2. Fisher, M. M., et al.: *New York State J. Med.*, 54: 659, 1954.
3. Golden, H. T.: *Delaware State M. J.*, 26: 267, 1954.
4. Innerfield, I.: *J.A.M.A.*, 156: 1056, 1954.
5. Innerfield, I.: *Surgery*, 36: 1090, 1954.
6. Hopen, J. M.: *Am. J. Ophth.*, 38: 84, 1954.
7. Hopen, J. M., et al.: *J. Phila. Gen. Hosp.*, 5:20, 1954.

cussed results in 80 cases of acute thrombophlebitis treated with IM injections of trypsin in oil, and reported relief of pain, calf tenderness and swelling, and decrease in fever and S.R. within four days in 75 of the patients. They injected 2.5 mg. of trypsin intragluteally once or twice daily for one to four days. All cases that did not respond within this time limit were classed as failures.

Innerfield[4] subsequently reported on a group of patients with chronic recurrent thrombophlebitis. For two years or more, they always had thrombi present which had not responded to anticoagulants. Courses of IM trypsin for 5 to 13 weeks resulted in the gradual disappearance of the thrombi in every patient. There were recurrences on withdrawal of the trypsin so that maintenance therapy was required.

In another paper by Innerfield,[5] acute thrombophlebitis, ischemic leg ulcer and diabetic cellulitis were discussed. Fifty-five cases of acute thrombophlebitis treated with IM trypsin were compared with similar cases treated with conventional anticoagulant therapy. Quicker subsidence of the inflammatory reaction, earlier ambulation and lower incidence of embolism were reported for the trypsin-treated group. The leg ulcers and the diabetic cellulitis were considered their own controls, as previous therapy had been ineffective. Subsidence of the signs and symptoms of acute inflammation was seen in both groups. Twelve of the 18 leg ulcer cases responded with liquefaction of exudates, drying, crust formation, and development of healthy granulation tissue when the crusts were removed. Eleven of 13 cases with diabetic cellulitis responded with subsidence of pain, then of edema and redness, and finally with improved mobility.

IN OCULAR CONDITIONS

Hopen[6] and Hopen and Campagna[7] reported good results with IM trypsin in inflammatory ocular conditions. Of particular interest in the latter paper are the case records of five patients with severe extraocular traumatic injury. When treated with trypsin immediately on admission to the hospital, swelling and pain subsided in one day or less. Patients treated unsuccessfully by other means were subsequently given IM trypsin; the edema and hematoma were resorbed in a few days.

IN ARTHRITIS

In arthritis, Goodson[8] found that patients under control or partial control with other medications did not do as well when switched to trypsin. In my experience, trypsin has been very useful in patients who have become refractory to other forms of treatment. There was one previously reported patient with monoarticular acute arthritis who responded to IM trypsin after other therapy, including intra-articular hydrocortisone, had failed. Three cases of generalized rheumatoid arthritis which had not responded to other therapy (IV gold, phenyl butazone and cortisone) were greatly improved with a single course of five daily injections of IM trypsin. Their improvement has been maintained with a single injection, once every week or two weeks. The reported case was included in a paper describing the results obtained with trypsin in oil used IM in 83 patients with inflammatory disorders. These represented a variety of disease states including inflammatory cutaneous and subcutaneous lesions, abscesses, thrombophlebitis, bursitis, bronchitis and lymphadenitis. The inflammation, pain and edema resolved in half or less the time anticipated from results with other forms of therapy. The time loss of the patients was strik-

8. Goodson, W. H., Jr.: *J. Kansas M. Soc.* 55: 129, 1954.

for your tense peptic ulcer patients

new
ANTRENYL®-PHENOBARBITAL

depresses... ...gastrointestinal motility

...gastric acid secretion

...nervousness and irritability so common in the ulcer diathesis

CIBA
SUMMIT, N. J.

SUPPLIED: Antrenyl-Phenobarbital Tablets (scored), each tablet containing 5 mg. Antrenyl and 15 mg. phenobarbital.

Other forms: Tablets, 5 mg. Syrup, 5 mg. per 4-ml. teaspoonful. Pediatric Drops, 1 mg. per drop.

Antrenyl® bromide (oxyphenonium bromide CIBA)

2/2059M

ingly reduced. Bronchial asthma was also treated successfully, but here the duration of relief was the important factor rather than the rapidity, as compared with adrenaline.

MISCELLANEOUS

Based on experience gained from treating over 300 patients with IM trypsin* both in my office and in the hospital, injections of 0.5 cc. containing 2.5 mg. of trypsin are now being given routinely in all cases of:

1. Acute swollen local areas such as thrombophlebitis, local infection, abscess, cellulitis, traumatized area.
2. Acute inflammation in closed areas such as bursitis, acute arthritis, peritonsillar abscess, perialveolar abscess, tenosynovitis.
3. Thick, tenacious exudates, such as in bronchitis, bronchial asthma, sinusitis, pleurisy.
4. Tissue necrosis, such as gangrene, decubitus and varicose ulcer, and 2nd- and 3rd-degree burns. Trypsin is used whether these lesions are suppurative or non-suppurative.

By extension of the results observed in these diseases, IM trypsin has been given to a number of patients with chronic conditions, where inflammation or local edema is a complicating factor, or where other treatment has failed. There have been some unexpectedly favorable results which justify the continued arbitrary use of trypsin even though the rationale is questionable. Inflammation may be present where little suspected in a good many conditions. There are only a few patients with any one disease in this group, and the results are not uniform, therefore they will not be reported.

IN LOCAL INFECTIONS AND TRAUMAS

This paper discusses the results obtained in the treatment of carbuncles, furuncles, and traumatic injuries. These conditions are typical self-limiting, painful, unpleasant diseases, seen every day in the office.

FURUNCLES

In the past 18 months, 16 cases of furunculosis have been treated with trypsin at home or in the office, one daily injection of 2.5 mg. (0.5 cc.), usually into the gluteal region, for 3 or 4 days until drainage has occurred spontaneously, and then every other day until disappearance of the abscess.

Resolution took place without surgery in every case in a third to a half the time expected from experience with other methods of treatment.

CARBUNCLES

There have been 9 cases, three of them from diabetes, in the 18-month period. The same course of treatment was used: once daily injections until spontaneous drainage, and then every other day. The patients became afebrile in 18 to 36 hours without the concomitant use of antibiotics. No incision was necessary. Spontaneous drainage occurred within 2 to 4 days and was serous rather than purulent and necrotic. Complete healing occurred in all cases in less than 12 days, 4 cases requiring 6 days. The scars were smaller and more pliable when IM trypsin was used than other forms of therapy. No cases required hospitalization, in contradistinction to previous experience where about half required hospital care. Two of the patients returned to employment in 3 days, and none were out for more than a week.

TRAUMATIC INJURY

There have been 65 patients treated within the past 18 months who had sustained traumatic injuries

* Parenzyme®: The National Drug Company.

characterized by serous or sanguinous extravasation. These include sprains, severe bruises, traumatic arthritis, severe contusions, brain concussion and damage, crush injuries, fractures with marked swelling. Generally, in comparison with results obtained before trypsin was used routinely, there has been a relatively rapid subsidence of swelling, dissolution of hematomata, and relief of pain.

A typical crush injury was that of a housewife whose hand and forearm were caught in a wringer. The resultant edema, discoloration and pain all subsided within two days after the start of once-daily IM injections of 2.5 mg. of trypsin.

In fracture cases with excessive swelling in the region of the break, it has been possible to make permanent reductions within two days, whereas previously reduction had to be delayed because of swelling, or casts had to be bivalved and in many cases reapplied when the swelling subsided.

The results in post-concussion headache have been good. All of 8 cases improved, 4 clearing completely, after 3 or 4 daily injections. In 3 of these cases, trypsin was withheld deliberately for 3 weeks after the accident. During this time the post-concussion syndrome was fully exhibited. Following the institution of trypsin therapy, two cases were asymptomatic in 3 days, the other in a week.

CONTRAINDICATIONS

The only contraindication to use of IM trypsin is a previous history of allergy to oily injections or to trypsin. In such cases, IM trypsin should be used only with great care and the physician should be prepared to give parenteral antihistamines and adrenalin. Also, any patients with a history of drug allergy should be watched as these usually are the ones who develop erythema and induration at the site of injection.

SIDE EFFECTS

Pain at the site of injection is reported by half of the patients. It appears to be of the severity of other oil preparations such as penicillin, and in no case necessitated withdrawal. In some cases, erythema and induration develop at the injection site. The reaction has the appearance of a local allergy which, in most patients, becomes less with succeeding injections after the 4th or 5th day. However, in one case the induration became larger with succeeding doses to the size of a baseball, and it was considered advisable to withdraw therapy for fear of a systemic reaction. Recently it was found that the inclusion of the antihistaminic chlorprophenpyridamine, 5 to 10 mg. in the syringe with the trypsin suspension, markedly diminished the local reaction.

In the cases reported in this series, the duration of treatment was short and no severe reactions occurred.

DISCUSSION

Trypsin has been reported to work by increasing local circulation in an area occluded by the inflammatory or soft-fibrin barriers. Whether this is through dissolution of the barriers themselves by activation of a lytic substance, or whether it acts by increasing flow first, thus permitting autolysis of the barriers, is unknown. Some laboratory work by Martin et al.[9] shows that prevention of local edema and inflammation can be demonstrated experimentally equally well with cortisone and with trypsin, but for cortisone, pretreatment is required for a couple of days, while with trypsin the time required is half an hour or less. The

9. Martin, G. J., et al.: *Arch. Internat. Pharm. et Therap.*, 96: 124, 1953.

increase in weight of a leg injected with an irritant over a control leg was used as the criterion. In another paper, these authors[10] showed that the trypsin effect was a function of its proteolytic activity, as other proteolytic enzymes could give a similar action, while inactivation of the enzymes prevented the effect.

Hardy et al.[11] reasoned that as the clinical dose of trypsin is lower than that of cortisone, it should be possible to substitute trypsin at a lower level for cortisone. In their hands trypsin was ineffective when a pretreatment course of 48 hours was used. Caliper measurements of the legs of animals were used as criteria in this test. Kleinfeld and Habif[12], having observed the reversal of inflammatory signs in thrombophlebitis, attempted to quantitate the effect in the laboratory using Selye's Granuloma Pouch test. Again trypsin failed to match cortisone when doses were used in ratio to clinical concentrations. They concluded that trypsin does not affect the formation of granulation tissue.

Clinical experience with the treatment of ulcer patients bears out the Kleinfeld and Habif observation. The formation of granulation tissue is rapid, once the inflamed area around the ulcer has subsided. Similar observations have been made by Innerfield.

All of these laboratory tests and the clinical cases seen point to the conclusion that trypsin is not anti-inflammatory in the accepted sense. The action appears more to be a mobilization of local edema fluids resulting in a reversal of inflammation.

It has been accepted in medicine that the walling-off phenomenon is a protective mechanism to prevent interchange between an infected area and the rest of the body. The laboratory data imply that antibiotics should always be used in cases of infection, as the destruction or permeation of protective barriers should permit spread of toxic or virulent substances. Actually, as previously reported, this does not seem to be the case, because patients with infection, formerly treated with penicillin, when later treated with penicillin and Parenzyme, recovered so much more rapidly that it was felt that antibiotics had contributed little. Subsequent cases were treated with Parenzyme alone and did as well as those treated with both agents. However, because of the inherent danger, if the supposed mechanism of trypsin action is correct, I use an antibiotic in conjunction with the trypsin in cases where there are large infected areas or systemic infections.

In the cases outlined, the results have been considered uniformly good. Because of the self-limiting nature of the conditions, definite statements as to "how good" could not be made without controlled series of several hundred patients in each category. In comparison with similar cases treated previously, however, the time of discharge is much shorter, the amount of minor surgery required is much less, and the residuals are cut down.

The findings in concussion are so striking that it is hoped a large accident clinic will follow up with a major controlled study.

SUMMARY

1. The use of IM trypsin is discussed.

2. Results are discussed in 90 cases with furuncles, carbuncles or traumatic injury.

3. Relief of symptoms and return to activity were rapid in all cases.

10. Martin, G. J., et al.: *Proc. Soc. Exper. Biol. & Med.*, 86: 636, 1954.
11. Hardy, E. G., et al.: *Surg., Gynec. & Obst.*, 100: 91, 1955.
12. Kleinfield, G., et al.: *Proc. Soc. Exper. Biol. & Med.*, 87:585, 1954.

Drugs in the Treatment of Essential Hypertension

An evaluation of many drugs and combinations of drugs showing their effectiveness, side reactions and the hazards that may accompany their use

LUCIUS F. HERZ, M.D., *New York, New York*

Medicinal treatment is but one factor in the treatment of essential hypertension. Reduction of overweight, avoidance of physical and mental strain, relaxation, plenty of sleep and a low-salt diet are also important. Heart, kidney and cerebral complications require special treatment as they arise.

Potassium thiocyanate is still used effectively for hypertensive headaches and in some cases has materially reduced the blood pressure, but its popularity is waning. Even when used cautiously, the incidence of serious intoxication is high. Alvarez states that potassium thiocyanate is effective but toxic and a number of people have died because of its use.

Ergotoxin Derivatives. The reports on these derivatives, such as hydergine, have thus far been unenthusiastic. When used continuously, they may become ineffective, so rest periods are required. They have a tendency to produce nasal stuffiness. Hydergine parenterally produced a transient reduction in blood pressure and pulse rate, chiefly through a central action. The drug was not shown to be of practical value for the control of ambulatory hypertensives but has a place in those cases with cerebral manifestations.

Veratrum products lower the blood pressure, but effective doses whether given orally or parenterally often cause vomiting and a feeling

of weakness. A serious disadvantage of veratrum lies in the proximity of the toxic dose to the therapeutically effective dose. From 5 to 15 mg. of veratrum viride are usually given and following this daily dosage epigastric burning, salivation, nausea and vomiting make it impossible for some patients to continue to take it. Since only 10 or 15% of patients obtain even slight benefit from this drug, one should be highly critical as to its benefits. A follow-up after one year indicated that 20% or less continue to obtain a reduction in blood pressure; only 3 to 7% were made normotensive. Neither ergotoxin nor veratrum derivatives were found to benefit more than a small percentage of hypertensives. Both produced side reactions, veratrum the more severe.

Phentolamine (*Regitine*) is an excellent medium for diagnosing pheochromocytoma, an important cause of a few cases of hypertension. When given as a treatment for essential hypertension, it is likely to produce nausea, vomiting, weakness and headache. Less than 15% of patients can tolerate it for more than a month.

Dibenyline has been found effective in lowering the blood pressure but reflex tachycardia and palpitation frequently occur since the sympathetic nerves to the heart are not blocked.

Hydralazine (*Apresoline*) has undoubted hypotensive value but may cause troublesome headaches, palpitation and breathlessness and at times dependent edema. Less commonly, it produces angina pectoris or status anginosus with electrocardiographic changes suggesting myocardial ischemia, which would indicate discontinuance of the drug. These ill effects may cease if the patient can persist in taking the drug. There are reports of GI hemorrhage, also of pancytopenia following its use. This remedy has produced tachycardia and increased cardiac output—a serious consideration in the presence of coronary artery disease, in which myocardial ischemia may result. A lupus erythematosus-like syndrome has followed the use of hydralazine. A series of ambulatory patients showed no appreciable blood pressure changes directly attributable to the drug. More seriously ill patients, who were hospitalized and treated by hydralazine alone or combined with hexamethonium, rarely showed hypotensive effects in dosages that could be tolerated.

Hexamethonium is indisputably a powerful hypotensive, working as a ganglion-blocking agent. It is commonly given only parenterally, as orally its absorption is unpredictable. Too large a dose causes dryness of the mouth, constipation and/or diarrhea, blurring of the vision, nausea and postural hypotension. These effects seem to be more reliable guides to the proper oral dosage, than random blood pressure determinations. The initial evaluation of each patient should help to determine those cases in which extreme caution must be used in treatment. Some clinicians give hexamethonium orally as a hypotensive agent. Initial side effects are numerous, but in few instances are they prohibitive. When the dose is built up too rapidly, syncope on standing, weakness, dryness of the mouth, blurred vision and difficulty in defecation are likely. As the drug is excreted and the blood pressure rises to normo- or slightly hypertensive levels, these symptoms tend to disappear. Other side reactions encountered were weight loss, fatigue, nausea and vomiting, diarrhea, dizziness, impotence, precordial pain (rare and only on early use), abdominal cramps, syncope and urinary retention (uncommon and

only on early use). It is considered that hexamethonium is contraindicated when the blood urea nitrogen exceeds 40 mg. per 100 c.c.

Rauwolfia. The recent literature has been flooded with articles dealing with the use of rauwolfia and its derivative, reserpine. The status of the remedy is thus well summarized. It would seem that rauwolfia and the pure alkaloid reserpine are agents of relatively low hypotensive potency. However, because of their freedom from severe side effects and their ease of administration, they may be useful in some cases of mild hypertension and because of their additive effects, may be of value as an adjunct to other more potent drugs in the treatment of moderately severe and severe hypertension.

A new drug combination* of theobromine sodium salicylate, 3 grains, phenobarbital ¼ grain, calcium lactate 1½ grains has proved to be both safe and efficient. Side effects rarely occur and when they do are of a trivial nature and do not require discontinuance of the drug.

This combination of drugs attacks essential hypertension in two ways; the theobromine compound acting as a diuretic and vasodilator and the phenobarbital relaxing both the central and the sympathetic nervous systems. It has a stimulating effect upon the heart and the vascular system, tending to dilate the peripheral vessels as well as the coronaries and renal vessels unless so sclerosed as to be rigid. It has produced excellent results in moderate cases of angina pectoris. It is also useful in pulmonary edema.

The phenobarbital constituent relieves the nervous strain which is so large a factor in the causation and the maintenance of hypertension. Many sufferers from arterial hypertension exhibit a disorder of personality which has been conveniently described by the term "neurotic." They are characteristically tense individuals given to states of anxiety and depression.

Praise is general of the use of phenobarbital in hypertension. It should be given in sufficient dosage to keep the patient calmed but not depressed. Suggested dosage is gr. ¼ two or three times daily and gradually increased to desired effect.

The combination of theobromine sodium salicylate with phenobarbital found in this drug combines vasodilation and sedation in overcoming hypertension. The calcium lactate is added to assist in the elimination of waste products as well as of phenobarbital. It causes a gradual and sustained drop in blood pressure with no, or very few and trivial side effects. It has proven effective in Groups 1, 2 and 3 of essential hypertensive cases. In Group 4, its severity is such that it is doubtful whether any medication would prove effective and sympathectomy should be considered in suitable cases that are not too far advanced.

In a previous paper[1] I gave the results of 50 cases of essential hypertension treated with this new combination. All but three were given two tablets 3 times daily. These three were given one tablet 3 times daily. The average initial blood pressure was 209.6/108.5. Treatment was continued for four weeks and the readings then averaged 155.5/80.4. Four weeks after cessation of treatment they averaged 160.6/85.6. All but three patients showed a definite drop in blood pressure, an efficiency of 94%.

SUMMARY

1. Various drugs and drug combinations in common use for the treatment of essential hypertension are discussed.

2. Some of these drugs are too mild to be reliable; some are effec-

* Diurbital® Grant Chemical Co., New York.

1. Herz, L. F.: *Clin. Med.* 56: 81-83, 1949.

tive but risky; some are both ineffective in most cases and capable of producing marked side reactions.

3. A new drug combination fights hypertension in two ways (1) by vasodilation and (2) by sedation. It rarely produces side reactions and then only trivial ones.

4. A summary of a previous article is given wherein marked improvement in 47 out of 50 cases of essential hypertension resulted from the administration of this drug combination.

A Fatal Attack of Cyclic Vomiting

Periodic, recurrent, or cyclic vomiting is the description given to periodic attacks of vomiting associated with large amounts of ketone bodies in the blood and urine which occur in certain children, usually between the ages of 2 and 10 years.

These attacks reveal the extreme sensitivity to these patients to infection and the rapidity with which seemingly irreversible biochemical changes may result, so that even with IV therapy and antibiotics death may still occur. It is likely that, as van Creveld (1952) suggests, cyclic vomiting is a syndrome depending on constitutional and exogenous factors. To the latter belong acute or chronic infections, exertion, excitement, a faulty diet, food allergy, and anesthetics, any one of which might release an attack. The constitutional weakness seems to be an oversensitiveness to a temporary lack of carbohydates.

R. J. K. Brown, *Brit. M. J.*, 4895:1033, 1954

Food Allergies: Diagnosis and Treatment

Emphasis is placed on response of WBC to ingestion of foods singly in the diagnosis, and on detection and the exclusion of offending foods in the treatment

LYDIA ALLEN DEVILBISS, M.D., *Miami, Florida*

Allergies are a combination of an inheritance of allergy or a tendency to allergy, causal factors in the home or environment, and an emotional instability produced or aggravated by allergic manifestations.

Of the types of allergies—inhalant, contact, thermal, and ingestion—those due to foods can result in the most serious manifestations and complications of medical or surgical problems. They can simulate the customary reactions of other types of allergies, and coexist with them. Food allergies may not be suspected, are sometimes difficult to detect and very difficult to cure, for this depends upon patient continued cooperation.

Common complaints are: intermittent attacks of gross fatigue often with mental dullness or confusion, headaches including the migraine-type, intestinal disturbances: nausea, vomiting, colic, sometimes constipation but more often loose bowels. The severely allergic can have an explosive type of diarrhea with a peculiarly foul odor following the use of an oral antibiotic as well as specific foods.

DIAGNOSTIC

The ability to produce allergic symptoms by ingestion of selected foods, or exposure to certain products, helps rule out other causes for the manifestations.

Among the diagnostic symptoms are: edema of eyelids or face and hands, swollen ankles in the absence of nephritic or cardiac disease, and

otherwise unexplained attacks of tachycardia. An edema may be sufficient to permit fluids to escape and result in small hemorrhages from the nose, or bowel, or into the skin. Patients often exhibit magenta areas on the palms, itching areas without lesions, or the reddish areas with scaly eruptions in allergic eczema, atopic dermatitis.

Generally an allergic patient will have an increase in eosinophiles, but the absence does not exclude the possibility of allergy. In acute infections, eosinophiles may disappear from the circulating blood; or when treated with antihistamines, cortisone or ACTH, they may be reduced although previously present to an increased extent.

When an individual is allergic to several foods which are part of his daily diet, overlapping manifestations of the *masked symptoms of allergy* and the erratic WBC can be confusing. The rapid pulse, increased temperature, and temporarily high WBC of an *allergic toxic reaction* can complicate the diagnosis of medical and surgical problems.

Among medical problems in which food allergies can be directly involved are: pruritus of anus or vulva; painful spasms of the urinary tract; persistent attacks of nausea, vomiting and loose bowels.

In surgical practice, manifestations of food allergies may simulate perforated ulcer, gallbladder and renal colic, intestinal obstruction, acute pancreatitis, appendicitis and coronary or mesenteric thrombosis.

An untoward reaction to the ingestion of wholesome foods can be caused by a psychogenic mechanism as well as by an allergic one, or both. Primary food reactions are followed by secondary psychogenic reactions which may be more incapacitating than the original noxious stimulus. Food allergies can be involved in a number of neurological disorders. Edema of brain tissue can result in anomic aphasia and symptoms of brain tumor.

Allergies play an important part in otolaryngeal practice. More than one type of allergy may be the causative factor in sinus complaints, colds and coughs, nonspecific laryngitis with postnasal drip, inflammations of the ear, and pain of the inner ear associated with Meniere's disease,[1] also labyrinthitis.

TESTS FOR FOOD ALLERGIES

The simplest is the elimination-ingestion test. Every trace of a suspected food is excluded from the diet for not less than 5 days. Then a small portion is consumed. If allergic to this food, a large portion can result in characteristic manifestations of increased severity.

Other laboratory tests include: the food diary, rotary diversified diets, and elimination diet lists. A basic non-allergenic diet will decrease or eliminate symptoms within a few days. A patient should not be kept on such highly restricted diet any longer than necessary, for he can become allergic to formerly safe foods.

A specific food to which a skin test was positive could be shown to produce an outbreak of eczema in 92 of the 200 patients who were intensively studied. However, skin tests were negative to foods known to produce eczema in 25 of 100 children equally well studied.[2]

A simplified form of WBC tests has produced consistently accurate results over a period of years. The tests require technical accuracy, and it is important that one technician make all WBC counts for one laboratory period.

METHOD

Early morning tests are made, the

1. Drooge, F. D.: Ann. Allergy, 10, 1952.
2. Keston, B. M.: New York State J. Med. 17: 2446, 1954.

patient fasting or taking only a glass of water. The initial WBC count is made; patient consumes the single food brought with him and waits for 30 to 60 minutes; WBC count is repeated.

Interpretation of test depends upon *increase* or *decrease* in WBC. After a food to which patient is not allergic, the WBC increase as they do in a normal person after a meal. But if allergic, the WBC decrease by 1000 cells, more or less. Occasionally the test will appear inconclusive, when it is repeated at the end of another hour.

The next day, the initial decrease of an allergenic food will be followed by the *allergic toxic reaction* and an increase in the WBC to two or more times the patient's normal, with intensified characteristic symptoms. This reaction passes off in a day or so, unless the offending food is repeated.

CASE HISTORY, ATOPIC DERMATITIS, 1953[3]

A boy of 5½ years, allergic since birth, under constant medical care; in last hospital given 86 passive transfer tests and treatment, in not quite 3 weeks discharged, "minimally improved." Doctors recommended taking child to Florida.

Inspection: child was covered from head to foot with eczematous rash and bloody streaks; face, hands and abdomen badly swollen; remained in bed wrapped in blanket and could not speak; cried or moaned day and night.

On a basic non-allergenic diet he began to improve; in one week could be referred to a medical clinic. Additional findings reported: enlarged cervical glands; WBC 20,000; high eosinophile count.

The WBC tests detected the allergenic foods which were excluded from his diet.* At the end of 5 weeks, the boy could be sent home; at 10 weeks, with continued seasonal food tests, the family doctor reported: skin clear, WBC normal.[4] At 6 years of age, the boy started to school.

3. Author's Case.

CASE HISTORY, FOOD AND INHALANT ALLERGIES

Middle-aged man, 1949. History of symptoms common to food allergies since infancy, and inhalant allergies in the middle west. Complaints: intermittend attacks of gross fatigue; headaches and mental confusion; loose bowels; and an erratic WBC after 12 hospitalizations had removed sources of infection. Given 126 skin tests in a diagnostic clinic and told he was not allergic; diagnosis confirmed by an allergist in private practice. Patient came to Florida to nurse his ulcer. With the WBC tests, patient was discovered to be allergic to 20 of the 30 foods tested. By excluding them from his diet, the reactions to many of these foods have been overcome within 5 years.

TREATMENT

The use of drugs is chiefly symptomatic. A quick-acting antihistamine, chlor-trimeton, will afford temporary relief. Ascorbic acid is indicated in limited diets low in Vit. C, and dicalcium phosphate with Vit. D, for the commonly low blood calcium. Cow's milk is involved in 25% of food allergies. Canned soy bean milk, or the powdered form, often preferred, can be substituted.

A medication injected IV or IM may aggravate the allergic state. The exception is cortisone, or preferably ACTH, in allergic asthma.

Hydrocortisone ointment offers obvious advantages over the use of cortisone or ACTH in dermatoses, particularly atopic dermatitis. Improvement is usually maintained while ointment is being used; when

* An extraordinarily high WBC, 25,000, following a non-allergenic food, can be explained only by exposure to measles.

4. Mallory, Laurence B., Lawrenceberg, Tenn. Personal Communication.

discontinued, therapeutic effects wear off in 4 or 5 days.[5]

Desensitization is seldom required except for the severely afflicted infant or invalid who is allergic to milk, wheat and eggs, but seldom allergic to all three. Oral desensitization can be accomplished, according to textbook formulas, and usually within one month.[6]

A carefully kept record of foods and medicines taken, and the response or reaction is an essential in the management of food allergies. The successful treatment depends upon detecting the allergenic foods and excluding them from the diet until the allergic response has been overcome. A child usually will recover within months, an adult in as many years.

5. Sulzberger, M. B., et al., *J.A.M.A.*, 151:6, 1953.
6. Tuft, Louis, *Clinical Allergy;* Lea and Febiger, 1949.

Surgical Relief For Hydrocephalus

Without operation, hydrocephalic babies remain hopelessly undeveloped, mentally and physically, and usually die early.

Infants with severe degree of communicating hydrocephalus may be given a chance for normal development, if treated early enough; 40 out of 64 patients with severe communicating hydrocephalus, treated by immediate and continuous reduction of spinal fluid pressure are living; 42 show satisfactory to excellent results. At least 24 of these children appear to be entirely asymptomatic with normal or close to normal development, physically and mentally, at periods from a few months to over 4 years following operation.

Arachnoid-ureterostomy, designed to divert spinal fluid from the lumbar subarchnoid space to the urinary tract, presents an adaptation of an operation introduced 30 years ago by the German surgeon Heile. Many of the drawbacks, technical difficulties and postoperative complications of Heile's direct anastomosis of the ureter to the lumbar theca have been overcome by Matson's method.

In almost all cases the left kidney —because it is slightly higher than the right and on the aortic side — was removed through a subcostal incision. Through a separate midline incision the spine and laminae of L_2 were removed, exposing an area of dura 1.5 cm. long. A short incision was made in the dura, a pin-point hole then made in the protruding arachnoid and through it a plastic tube inserted as the spinal fluid poured forth. The tube, tunneled through the paraspinal muscles to the perinephric space, was then introduced into the ureter for 3 to 5 cm. Three or 4 silk sutures in the margin of its lumen were used to pull the ureter over the tube, securing it firmly to the fascia of the paraspinal musculature. No ligatures were placed around the ureter; its blood and nerve supply were thus left intact.

There was only one death during the postoperative period; an infant aged 3 months, in extremely poor general condition from postoperative aspiration pneumonitis, died on the 7th day after operation.

No obstruction of the arachnoid-ureterostomy as a result of growth alone up to 4 years after operation has been observed.

Overwhelming dehydration secondary usually to an upper respiratory or GI infection, caused the death of 10 infants at 3 weeks to 12 months after operation.

D. D. Matson, *Pediatrics*, 12:326, 1953.

Prophylaxis of Bowel Cancer

The detection of polyps and their removal, examination by the sigmoidoscope and x-ray studies will substantially reduce the mortality rate

MAUS W. STEARNS, JR., M.D., *New York, New York*

It seems of value to re-emphasize that it is possible to practice prophylaxis of cancer of the colon and rectum by detecting and eradicating a premalignant lesion, the polyp, by which we mean a true glandular neoplasm, an adenoma, arising from the mucosa of the bowel. Hypertrophied anal papillae, lymphoid follicles, and other polypoid tumors are excluded from this discussion.

MALIGNANT TRANSFORMATION

It is not implied that polyps are the cause of cancer, rather that they form a suitable soil in which the cancer may grow. There is much direct and indirect evidence that polyps undergo transformation from benign to malignant neoplasm. The most significant direct evidence is as follows:

1. Histologic study of all polyps removed has shown a complete range from completely benign adenoma to fully malignant cancer.

2. By histologic study of all cancer of the bowel, remnants of benign adenoma can be seen in 15%. Residual adenoma was present in 40% of a series of small cancers.

It is not possible to state what proportion of polyps of the colon and rectum will undergo malignant transformation if left to grow undisturbed. It has been shown that 15% of all bowel polyps removed had cystologic changes of carcinoma. This can be assumed to be the minimum that would become eventually invasive cancer. Presumably others in time would also show malignant

change.

Not all cancer of the bowel arises in polyps; we have seen cancers less than a centimeter in size in which no residual adenoma could be found. If an extensive program for the detection of these polyps is to be advocated it should be justified primarily by what it can accomplish. This justification resolves itself into determining the number of cancers that arise from polyps as opposed to the number arising without relation to preexisting adenoma. Known facts concerning the proportion having their origin in these polyps may be summarized as follows:

1. Fifteen % of all bowel cancer has been shown to contain residual bowel adenoma.

2. Forty % of small cancers had residual adenoma.

3. Of twelve early carcinomas found in a carefully studied autopsy series ten were in polyps.

Therefore, a conservative estimate is that over 50% of all bowel cancer starts in preexisting mucosal adenomas. It follows that if all polyps were detected and eradicated before malignant change occurred, the incidence of bowel cancer would be reduced by over 50%.

That polyps are prevalent enough to warrant routine measures for their detection is attested by Helwig, who reports in his study of autopsy material an incidence of polyps of 10% in the white population. In his series there were very few polyps found in people under the age of 30 years, but beginning with the fourth decade there was a progressive increase which raeched 25% in males in the eighth decade.

DETECTION

The detection of polyps in clinical practice is accomplished primarily by the use of the sigmoidoscope, an instrument which should be part of the equipment of every physician who performs physical examinations. Sigmoidoscopy of the lower bowel should be considered as routine as is speculum examination of the vagina and should not be compared with bronchoscopy or cystoscopy. It is an office or out-patient procedure. There is small hazard in its routine use, provided it is preceded by a digital examination and is passed gently under direct vision into a clean bowel. All those responsible for intern and resident training should recognize the need for providing instruction and practice in sigmoidoscopy. Any hospital in which a training program is conducted should have facilities where routine sigmoidoscopy can be done without elaborate preparation or special dispensation other than simple supervision for the neophyte.

PRESENCE OF BLOOD

Familiarity with gross abnormalities is gained quickly from practice with the examination. One important finding usually not recognized by those being introduced to sigmoidoscopy is blood. This may on occasion be present in such large quantity as to be obvious. More often it is present as minute flecks adherent to the mucosa or as slight discoloration in mucus which must be studied carefully before its true nature becomes obvious. If, in the absence of ulcerative colitis or proctitis, blood is noted above the midrectum, the possibility of a neoplasm above the range of direct visualization must be seriously considered, even though it is not demonstrated on radiographic studies of the bowel.

It is manifestly impossible for the GP to examine with the sigmoidoscope all patients he treats. The following indications for sigmoidoscopy should be considered minimum:

1. Any bowel or anal symptoms, especially when anal surgery is contemplated for obvious pathology in

that area.

2. Any "complete check-up" or cancer detection examination.

3. Familial history of G.I. polyp or cancer.

Furthermore, if a concerted effort directed toward cancer prevention is to be made, all patients beyond the age of 35 should also be examined by sigmoidoscopy, as the incidence of polyps begins to rise in the fourth decade while the incidence of cancer begins to rise in the fifth.

The safe interval between these examinations in the asymptomatic patient has not been established as yet. We know that polyps grow slowly; we also know that cancer may grow quite rapidly. Arbitrarily detection centers have advocated annual sigmoidoscopy; in all probability, it might safely be done biennially or triennially.

X-RAY STUDIES

Obviously, by sigmoidoscopy only the distal 8 to 10 inches of the large bowel can be visualized. The detection of polyps above this level must be accomplished by radiographic means. Radiologists are improving the accuracy of diagnosis of small lesions of the colon. Probably the most widely used method is the double-contrast study, in which the conventional barium-enema study is followed by air inflation after evacuation of the barium. Whatever the special technique employed, there are certain fundamental considerations common to all. First, barium-enema x-ray studies are not the proper means for demonstrating pathological abnormalities in the rectum, and should not be used as a substitute for proctoscopy and sigmoidoscopy for this area. Secondly, before x-ray studies can be of real value in detecting polyps, particularly the small ones, the bowel lumen must be free of fecal material, as this may either obscure or simulate a polyp. As a corollary, any polyp demonstrated by barium-enema study should be confirmed by a repeat examination before operation is advised. We find the most satisfactory method for cleansing the bowel is castor oil, 60 cc., (2 oz.), taken for one or two days prior to the examination, followed on the morning of examination by enemas until clean return is obtained.

Ideally, all patients should have x-ray studies of their colons. However, as this examination is more expensive and less readily available than sigmoidoscopy, certain minimum indications are stated:

1. Bowel symptoms unexplained by the sigmoidoscopic findings.

2. Incomplete examination, or the demonstration of a polyp or flecks of blood by sigmoidoscopy.

3. Unexplained anemia or persistent occult blood in stools.

4. Familial history of G.I. cancer or polyps.

In large detection centers 90-95% of all polyps of the colon and rectum *found* are seen with the sigmoidoscope. From autopsy material we know that at least 30-40% of all polyps are beyond the reach of the sigmoidoscope. Judd and Carlisle have reported a series of 246 patients who had transcolonic removal of a polyp, of whom 15% subsequently developed polyps requiring abdominal operations. Because there two observations may be explained largely by the fact that polyps less than 1 cm. in size are usually not demonstrated by barium - enema studies, we have felt that more adequate examination of the colon is essential.

USE OF SIGMOIDOSCOPE THROUGH MULTIPLE INCISIONS

We have been practicing direct inspection of the mucosa of the entire bowel, by the use of a sigmoidoscope through multiple (usually

three) incisions at the time of laparotomy for polyps, in an effort to detect the small polyps that were not demonstrated by x-ray and are too small and soft to be detected by palpation through the bowel wall. In 45% of all patients in whom this examination has been performed, additional undemonstrated and nonpalpable polyps have been found and removed. This, we believe, is an extremely worthwhile addition to our means of detection of polyps, especially in decreasing the number of secondary operations for subsequent polyps.

TREATMENT

While the burden of the search for polyps rests on any doctor who undertakes to examine and treat patients, the eradication of these lesions is the province of the general surgeon and proctologist. Generally, the polyps that can be visualized through a sigmoidoscope can be removed locally through this instrument, while those lesions demonstrated only by barium enema must be removed by laparotomy. We believe that a method which allows examination of the entire specimen by the pathologist is preferable to one in which only a small biopsy, which may or may not be representative of the remaining tumor, is submitted for study.

For the removal of these polyps through the sigmoidoscope we use a wire snare, through which a coagulating current is passed to cut through the pedicle below the polyp, allowing an intact specimen to be given to the pathologist for study. If laparotomy is required the polyp may be removed by ligation of the pedicle through a colotomy. If, however, at laparotomy the polyp has the appearance of a malignant neoplasm, then resection of the bowel should be done as for carcinoma.

All patients who have had one or more polyps should undergo periodic examination for the remainder of their lives.

VALUE OF LAPAROTOMY

One often hears the need for removal of polyps from within the colon by laparotomy questioned, as they are "just benign lesions." In addition to the risk of malignant change, it should be pointed out that radiographic study provided only a shadow of the tumor. While many criteria may be applied to differentiate between a benign and a malignant polyp and, in general, may be proper for a large series, these criteria may not hold for a single small polypoid tumor. Furthermore, it is not possible to determine which polyp contains cancer unless it is removed in its entirety; or to prognosticate which polyp, left undisturbed, will remain benign throughout the life of the patient.

In conclusion, it should be reemphasized that the detection and eradication of polyps of the colon and rectum, which constitutes true cancer prevention, deserves more consideration. Detection of polyps can be accomplished by the routine employment of sigmoidoscopy by all who do physical examinations, supplemented, when indicated, by radiographic study of the bowel. If all these lesions were removed the incidence of bowel cancer would be reduced by over 50%, which would reduce the number of deaths from this form of neoplasm more than all of our currently accepted methods of treatment of established cancer.

What Should be the Attitude of the General Practitioner Toward the Hernia Problem?

An early operation, regardless of age of the patient, by a carefully selected surgeon would materially reduce the rate of recurrence

AMOS R. KOONTS, M.D., *Baltimore, Maryland*

SURGICAL AND ANESTHETIC TECHNIQUES IMPROVED

Surgical technique has so improved over the last 50 years that the chance of recurrence, even after the most difficult hernia operations, has been reduced to a minimum, provided the operation is done by a competent surgeon. We now have a great variety of anesthetics from which to choose, one to fill the needs of the individual patient. Spinal anesthesia is extremely useful, also local anesthesia.

DO NOT DELAY

What then is the core of the present day hernia problem? I believe that the main factor is *delay*—delay in having the operation performed when the hernia first appears. There once may have been some reason for delay, but those reasons have been eliminated, as pointed out in the preceding paragraph. At the turn of the century, few of the large number of hernia patients in this country ever came to operation. Many a hernia sufferer had to have one leg of his trousers made larger than the other in order to accommodate the huge hernia. Many wore shoulder slings to support the hernial mass. Such huge hernias are now rarely seen compared with former times. People are more accustomed to surgery and more fully aware of the benefits that may be derived from it. There does, however, still exist a reluctance to

have necessary operations performed, this reluctance not confined to the laity, but also part and parcel of the mental attitude of many G.P.s and internists.

PHYSICIANS' INDIFFERENCE

In many instances a physician advised a patient with a hernia to get a truss, but seldom advised where to get it, or bothered to see that the truss fitted. At other times the patient with a hernia will be told not to bother about it now, "but you may have to have an operation sometime." Many a physician does not realize what happens to some of the patients. The surgeon who sees a great number of hernias does see the results, and it is the object of this paper to point them out. Some physicians tell their patients that their hernia will probably never require an operation.

CASES POINTING A MORAL

One of the leading internists in Baltimore told a patient that he had a small hernia and that he would probably have to have it operated upon sometime within the next five years. Within a year this patient had a large scrotal hernia, which was difficult to cure. He finally came to me of his own accord, eight years ago, had his operation, and is still cured.

A man of 26 was sent to me recently by a keen G.P., because of an incisional hernia in a McBurney operative scar, which had been present for 8 years. There was a small opening through which a knuckle of bowel protruded, obviously in danger of strangulation; yet three doctors had advised him against operation, one in saying, "Don't bother it until it bothers you." The operation for this small hernia was simple, and now the patient is more comfortable and delighted that the risk of strangulation is no more.

CURE? NOT ALWAYS BUT GENERALLY

Many doctors advise against operation for hernia on the ground that there is no guarantee of a cure. The late Dr. J. M. T. Finney was frequently heard to say, "There is no such word as *always* and no such word as *never* in medicine." In good hands, the chances of recurrence have been reduced to almost nothing. The doctor should explain this situation to his patients, and thereby render them a great service.

INTERFERERS

Whenever a patient has a surgical condition of any sort, there are always a lot of Job's comforters around (usually among the laity) to tell him of all the dire things that may happen to him if he is operated upon. There is always someone to remind him of such and such an acquaintance who had an operation for hernia and whose hernia recurred. The doctor's mission is to correct the misconceptions of the laity with regard to the frequency of recurrence.

Seven years ago I had a patient admitted to one of our best hospitals for an operation for recurrent hernia. Even after he was admitted, one of the house men advised him against operation, saying that operations for recurrent hernias were almost never successful. The man had his operation and didn't tell me about the incident until some years later. He has stayed cured.

TEACHING IMPROVING

Some of our very best doctors have this casual attitude toward hernia. I do not believe that the subject of hernia is as thoroughly and properly taught in our medical schools as it should be, although that situation is improving yearly. Certainly there is still room for improvement. Further, many doctors are adverse to operations unless they are abso-

lutely necessary. So are we all. The question is when are they absolutely necessary. I believe that operation for hernia is absolutely necessary as soon as the hernia makes its appearance, unless there is some definite contraindication to operation, and contraindications are very limited these days. The reason that early operation for hernia should be advised, even urged, is because of the things that may, and do, happen to those whose hernias are neglected.

MANY PAST 70 GIVEN YEARS OF COMFORT

To advise an early operation for a hernia requires foresight. I operate on a great many patients in their 70's and 80's for hernias which have been neglected for 30 or 40 years. These patients finally come to operation because their tissues deteriorate, their hernias cannot be retained by trusses, there is danger of strangulation, the operation is imperative at a time when the operation is no longer simple and the patient is not so good a risk. These patients are in the position they are in because they did not get the farsighted advice from their doctors 30 or 40 years previously.

DIFFERENT KINDS OF HERNIA

Ventral hernias of all sorts (incisional, umbilical, and epigastric) are easy to cure when they are small. However, they all tend to get larger and in many cases the enlargement is rapid. They are difficult to cure when they are large. In these hernias Shelly[1] found a recurrence rate of 16.8%. Burdick, Gillespie, and Higginbotham[2] reported an even less satisfactory experience. Barrow[3] states that when these patients have to have a second operation, they are 5 times as hard to cure as at the time of primary repair.

Recurrent *femoral* hernias are notoriously hard to cure. Therefore, the operation should be done early, and with all the meticulous care of which the surgeon is capable. Another reason for early operation upon femoral hernia is that 40% of them become strangulated sooner or later, and the mortality rate in strangulated femoral hernia is high, because, due to the rigidity of the environs of the femoral canal, gangrene ensues quickly.[4] It is *imperative* that all femoral hernias be operated upon as soon after they make their appearance as can be conveniently arranged by the patient.

Inguinal hernias, too, are harder to cure after the first operation. The surgeon often finds the anatomy scrambled and there is often a good deal of tissue deficiency. Every surgeon has operated upon some recurrent inguinal hernias in which the anatomy was normal, except for the hernia, and in which it was difficult to tell what the surgeon had done at the first operation, even that he had done anything worthwhile.

AGE NO CONTRAINDICATION TO OPERATION

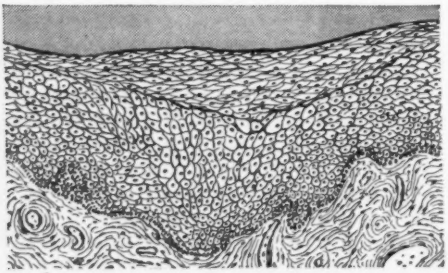
What should be the attitude towards operation in older people who have had neglected hernias for many years, or in those who develop hernias in advanced age? I can see no more reason for further neglecting their old hernias, or for ignoring their new ones, than if they were middle-aged or younger. Many papers have been published in recent years which show that elderly patients stand elective operations just about as well as middle-aged patients.[5,6,7,8,9,10,11,12] They do not, how-

1. Shelley, H. J. *South. Surgeon*, 9: 617-656, 1940.
2. Burdick, C. G., et al.: *Ann. Surg.*, 106: 333-343, 1937.
3. Barrow, D. W., *J. Kentucky State M. A.*, 51: 477-479, 1953.
4. Koontz, A. R.: *Arch. Surg.*, 64: 298-306, 1952.
5. Cutler, C. W. Jr.: *Ann. Surg.*, 126: 763-779, 1947.
6. Strenger, G.: *Ann. Surg.*, 1929: 238-243, 1949.
7. Bradshaw, H. H.: *J. M. A. Georgia*, 41: 4-6, 1952.
8. Cutler, C. W. Jr.: *Surg., Gynec. & Obst.*, 94: 481-490, 1952.

'Target Action' on Vaginal Mucosa

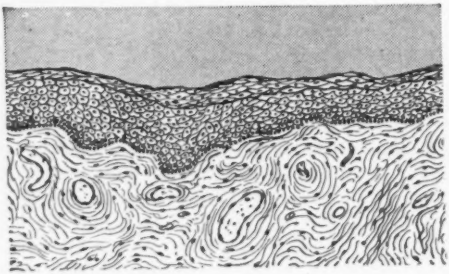
Vallestril, brand of methallenestril, is preferentially indicated whenever estrogens are of value. Its selective "target action" is on the vaginal mucosa with a minimal effect on the endometrium and, therefore, the incidence of withdrawal bleeding is exceedingly low. Also nausea, mastalgia and edema are usually avoided.

"The failure to encounter withdrawal bleeding in any patient was most gratifying . . . unique as well as clinically advantageous."*



Adult vaginal epithelium maintained by estrogen activity.

During menopause, mucosa reverts to the infantile type.



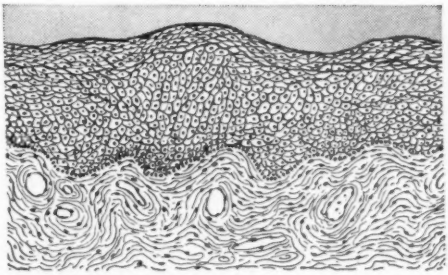
VALLESTRIL®—THE SELECTIVE ESTROGEN

*"Vallestril is an effective synthetic estrogen . . . singularly free from toxic effects and complications, especially uterine bleeding."**

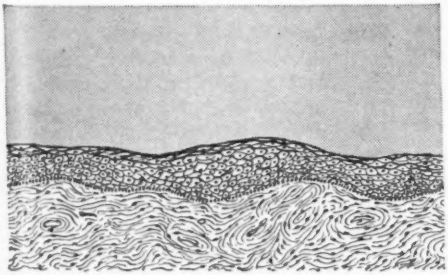
Vallestril quickly controls menopausal symptoms, the pain of postmenopausal osteoporosis and the pain of osseous metastases of prostatic carcinoma.

DOSAGE: Menopause: One tablet (3 mg.) two or three times daily for two or three weeks, followed by one or two tablets daily for one month or longer depending on the patient's response to therapy. Supplied only in scored tablets of 3 mg. G. D. Searle & Co., Research in the Service of Medicine.

*Sturnick, M. I., and Gargill, S. L.: New England J. Med. *247*:829 (Nov. 27) 1952.



Vallestril slows transitional phase during menopause.



Postmenopausal mucosa—thinning and atrophy of layers.

SEARLE

ever, stand emergency operations anything like so well. In fact, the mortality rate is high, 30 to 40% for emergency operations in elderly people. They should have their operations as elective procedures; their hernial condition should never be allowed to become an emergency.

PROPER ANESTHESIA AND PRE- AND POST-OPERATIVE CARE

Elderly patients also stand operations well in spite of concomitant ailments, provided there is proper selection of the anesthetic and proper preoperative and postoperative care. Warren[13] has recently reported operating successfully for incarcerated femoral hernia on a patient having severe cardiac failure, with the patient in a semi-reclining position because of her orthopnea. Stewart and Alfano[14] have recently very aptly pointed out that elderly patients should have adequate surgical care, not merely to save life, but also to relieve discomfort and disability.

HOW SELECT THE SURGEON

When the G.P. advises his patient to have his hernia operated upon, how should the surgeon be selected to do the job? Certainly not simply because there is some friend who does surgery; nor the thought that an operation for a small hernia requires little skill. It is because many early hernias are operated upon by surgeons, unskillful or thoughtless, or both, that the recurrence rate is as high as it is. Often the patient wants some surgeon because he is known to do a lot of work, or because he has heard of him through some friend. The family doctor should know what the training of the surgeons in his community has been—how much time they have spent as house officers, the nature of their training, and especially the quality of the men under whom they were trained. The number of fine surgeons is increasing daily in our country. However, there are still some men doing surgery, who are not only improperly trained, but are thoughtless and haphazard in their methods as well. The doctor will do well to choose for his patient the surgeon he would choose to operate upon a member of his family.

WHAT KIND OF SUTURES

If I were selecting a surgeon, I would want to know, besides the other things mentioned above, whether he used non-absorbable or absorbable sutures in his hernia repairs. The length of time that catgut stays in the tissues is very variable. Parsons[15] showed that the recurrence rate in the hernia repairs at the Presbyterian Hospital in New York was 4 times as great when catgut was used as when silk was used. Madsen[16] has recently shown experimentally that when silk and catgut sutures, which initially had the same tensile strength, were placed in fascia, after 6 days all of the silk sutures still had their initial tensile strength in nine out of nine cases, whereas only three out of the nine chromic catgut sutures were reliable. Catgut should never be used in hernia repair. My preference is silk or cotton, rather than wire, as wire sutures tend to cut through.

There was a time when the use of silk was execrated in most parts of the country. Halsted always used silk, but he insisted that the use of the material required faultless operating-room technique, as well as the delicate handling of tissues. Silk was for many years little used through-

9. Stewart, J. D.: *Ann. Surg.*, 137: 143-144, 1953.
10. Koontz, A. R.: *Geriatrics*, 8: 93-98, 1953.
11. Debenham, M. W., et al.: *Geriatrics*, 8: 403-405, 1953.
12. Glenn, Frank, et al.: *Surg., Gynec. & Obst.*, 100: 11-18, 1955.
13. Warren, K. W.: *Surg. Clin. N. Amer.*, 34: 761-771, 1954.
14. Stewart, J. D., et al.: *J.A.M.A.*, 154: 643-646, 1954.
15. Parsons, W. B.: *Ann. Surg.*, 106: 343-347, 1937.
16. Madsen, E. T.: *Surg., Gynec. & Obst.*, 97:439-444, 1953.

out the country. This has now changed. I believe that one reason for the reluctance in taking up silk was the faulty operating-room technique in a great many hospitals, which resulted in infections. That should no longer be the case. It is true that in the presence of infection either silk or cotton does cause some little trouble. However, the number of such infections in well regulated operating rooms are negligible.

If the proper surgeon has been selected, he will be far from casual in his attitude towards the repair of the hernia, and will put everything he has into seeing that the repair is successful. He will also carefully outline the preoperative and postoperative care of the patient and these are often just as important as the operation itself.

SUMMARY

1. Too few doctors advise their herna patients to have early operations. This results in the hernias getting larger and being more difficult to cure when they do come to operation. If early operation were consistently advised [and the advice acted on] the recurrence rate would be materially reduced, because the hernias would be operated upon when they are relatively easy to cure.

2. Femoral hernias especially should have early operation, because of the high incidence of strangulation in this variety with its attendant high mortality rate.

3. Elderly patients stand elective operations just about as well as younger people. They tolerate emergency operations poorly, however, and the mortality rate is high in such operations. Therefore, their hernias should be operated upon before they become emergencies.

4. The selection of the surgeon is highly important. It goes without saying that he should have proper training. Besides, he should not be one of those well trained surgeons who feel that hernia operations are inconsequential affairs and who treat them in a casual manner. He should put all of his experience, skill and thought into the successful, permanent repair of the patients' defect.

Clistin Maleate Clinical Appraisal

126 patients suffering from severe allergic symptoms not relieved by other measures were given Clistin®. Of these patients, 113 had allergic rhinitis; 11 urticaria; 1 asthma; 26 allergic rhinitis and asthma; 1 allergic conjunctivitis.

Of those patients receiving the 4 mg. dose of the drug, 87 per cent noted some degree of relief; in 47 per cent relief was marked to complete. Of those receiving the 6 mg. dose, 80 per cent obtained some benefit, marked to complete relief in 37 per cent.

Onset of action usually was 30 to 60 minutes; duration of action approximately 4 hours. The most common side effect was drowsiness, but in only 4 per cent was sedation considered of moderate or severe degree and seemed to disappear after a few days despite continued medication.

Many potent antihistaminic drugs are moderately or highly sedative in action, however carbinoxamine maleate (Clistin) has weak sedative properties, and should be useful in the treatment of allergic conditions.

H. D. Beale, et al: *J. Allergy*, 25:521, 1954.

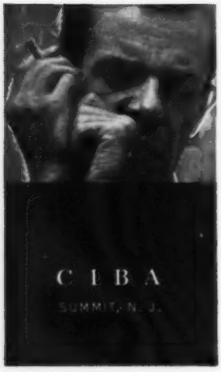
for your tense peptic ulcer patients

new
ANTRENYL®-PHENOBARBITAL

depresses... ...gastrointestinal motility

...gastric acid secretion

...nervousness and irritability so common in the ulcer diathesis



SUPPLIED: Antrenyl-Phenobarbital Tablets (scored), each tablet containing 5 mg. Antrenyl and 15 mg. phenobarbital.

Other forms: Tablets, 5 mg. Syrup, 5 mg. per 4-ml. teaspoonful. Pediatric Drops, 1 mg. per drop.

Antrenyl® bromide (oxyphenonium bromide CIBA)

9/ 3060M

Management and Prevention of Narcotic Addiction

A comparison of the American and British attitudes towards drug addicts illustrates our mistakes in the control of this problem

H. S. HOWE, M.D., *New York, New York*

Drug addicts are of three classes: persons addicted as a byproduct of treatment for serious medical diseases; doctors and nurses who have taken to the use of narcotics; and addicts who have become so through the agents of organized crime.

Most addicts commence the use of narcotics in youth, not all are youths at present. Their mental makeup varies; some are educated; many are ignorant. Some have valuable skills; others have none. Some are deeply addicted; others are not. A high quality of individual judgment must be applied in the solution of the problems of each.

There is little justification for the hope of a complete and permanent cure of more than a few addicted individuals. The one point of view that has never been officially accepted in the United States is that some addicts can be, and remain, useful and law-abiding citizens if they can be provided with their minimum requirements. There is much evidence that many chronically addicted persons are able to carry on their occupations and meet their responsibilities if continuously allowed a small amount of narcotic drug at a price they can afford.

Perhaps nothing better illustrates the British attitude as contrasted with our own than do the definitions of addiction. One of our distinguished authorities defines addiction as a condition where an individual uses a drug "to such an extent that

the individual or society is harmed." The editor of the British Journal of Addiction, states that "an addict is one who cannot be normal without a drug."

BRITISH VIEWPOINT

Dr. W. Norwood East, in the "British Government Report to the United Nations on the Traffic in Opium and Other Dangerous Drugs, 1949," states: "There is, of course, no compulsory treatment of addicts in the United Kingdom, and there are no State institutions specializing in the problem of addiction. Treatment is left to the discretion of the doctor in charge of the case."

The Assistant Secretary of the British Home Office, speaking before a meeting of the Association of Psychiatric Treatment of Offenders, on June 3, 1953, stated: "There are only 314 known addicts in the United Kingdom. Allowing for possible unknown cases there are no more than 400 addicts in all. These include people addicted to manufactured drugs and marihuana. Among the known addicts, 100 or more are physicians and an occasional nurse, pharmacist, or veterinarian. Of the remainder, one-half are medical addiction cases. The balance represents a mixed lot. There is no regular illicit drug market, no peddlers, nor places to buy drugs illegally."

The problem is fourfold: (1) to reduce the number of individuals becoming newly addicted, (2) to care for those presently addicted, (3) to cure all addicted persons possible, and (4) to reduce the crime resulting from addiction.

It seems clear that education must be an important part of the drug problem both for protection against the growth of new addicts and to adjust present or former addicts to a fruitful and law-abiding way of life.

All we can do is to apply and properly coordinate every appropriate technic, whether medical, sociologic, economic, or penal. The coordination seems to be the factor that has been lacking in the past. The plan must have great flexibility in order to deal with the usual exceptions as well as the typical situations.

GOVERNMENT HOSPITALS

It seems that progress should be possible if an appropriate number of narcotic hospitals were to be organized under federal, state, or municipal auspices in cities which are centers of addiction. These hospitals would be equipped to examine, classify and treat addicted persons on their premises for necessary periods, after which they would refer appropriate cases to specially commissioned physicians who would be appointed by the hospital staff. These physicians would operate under strict supervision of the hospital but would treat addicted patients in their offices.

It would be hoped that many addicts could be cured during the first visit to the narcotic hospital; such cures have usually been temporary. By permitting the uncured patients to be cared for by commissioned physicians after initial treatment, an opportunity would be provided for the patient to make progress toward social and economic adjustment, while assured of his needed supply of drug at a reasonable price. After achievement of an adequate social and economic adjustment, the patient would be returned to the narcotic hospital for final cure. When this had been completed, he would again be placed under the care of a commissioned physician, who would endeavor to prevent a relapse during the critical period when he is becoming adjusted to his resurgent sexual and other emotions, which were dulled or warped by the drug

and now emerge with a vigor for which the addict is usually unprepared.

By supplying deeply addicted persons with their requirements at low cost during the period of their need, the black market would be destroyed; "pushing" would become unprofitable; the illegal supply would dry up, and all addicts would be forced to apply at the narcotic facility. Thus we might stem the horrible tide.

New York State J. Med., 55:3, 341-349, 1955.

Lumbar Disk Syndrome Caused by Malignant Tumors of Bone

Whether the pain is caused by an intervertebral disk lesion or a cancer, it may be relieved by the treatment. If the surgeon is convinced that an effort to relieve the patient's symptoms by surgery is advisable and that the symptoms are caused by a disk lesion, then he should operate whether or not the myelogram shows abnormalities. If the clinical picture is fairly typical, he should operate without making a myelogram, for this procedure adds to the period of hospitalization and expense and is not without danger. If the patient is suffering severe pain and disability, and the surgeon can relieve him by a relatively safe operative procedure, the patient is entitled to this relief and the surgeon should not withhold it because he is afraid that he is going to find a tumor instead of a disk lesion. Even if the patient is known to have a tumor, he may also have a disk lesion.

R. T. Odell, et al, *J.A.M.A.*, 157:213, 1955.

he's getting
therapeutic dosage of
B VITAMINS*
plus twice as many calories
as 5% dextrose
in equal infusion time and
equal fluid volume

new Trinidex

Travert® 10% with vitamins

products of

BAXTER LABORATORIES, INC.

Morton Grove, Illinois • Cleveland, Mississippi

NEW TRINIDEX, TRAVERT 10% (INVERT SUGAR) *WITH VITAMINS*, provides more than 10 times the recommended daily allowances of thiamine, pyridoxine, and niacinamide, and more than 5 times the allowance of riboflavin as recommended by the National Research Council.

ISTRIBUTED AND AVAILABLE ONLY IN THE 37 STATES EAST OF THE ROCKIES (except in the city of El Paso, Texas) THROUG

AMERICAN HOSPITAL SUPPLY CORPORATION

SCIENTIFIC PRODUCTS DIVISION GENERAL OFFICES • EVANSTON, ILLINOI

Hyperventilation—A Common Functional Illness

Lessening of tension combined with the use of hormones, mild sedatives or a constraint on the chest to prevent expansion will bring relief

LEWIS DICKINSON, M.D., *Glasgow, Kentucky*

A recent statistical study of one internist's practice reports 47% functional disease. Functional disturbance of the respiratory system is the commonest of such disturbances seen in the author's practice. The symptoms are rather characteristic and easily discovered if one is aware of the possibilities. The mechanism of their cause is more easily explained to the patient than in any other functional illness, and the symptoms are demonstrated at will by having the patient hyperventilate, i.e., increase depth or rate of resp. beyond that required to satisfy the O_2 requirement of the body.

The symptoms come about as the result of increased loss of CO_2 from the body. Alkalosis thus produced will cause the hemoglobin to cling to its bound O_2. Less O_2 is relinquished to the tissues as the blood passes through. In the brain anoxia may develop rapidly, reducing the degree of consciousness. Upright posture favors syncope. There may be only increased neuro-muscular irritability, or there may be tetany.

Mouth breathing dries the mucous membranes; the patient moistens his lips and his tongue and the pharynx by swallowing. Stomach distension with air produces pain under the end of the sternum and the lower left chest. The patient senses inability to swallow or a choking feeling.

Chest pain may or may not accompany the over-breathing. Sharp, or a dull ache or gnawing pain centered about the l. nipple may be

muscle tenderness or a painful costochondral junction. Most patients complain of fatigue after these episodes.

Palpitation and increase in heart rate may occur as a result of tissue anoxia, increased respiratory pressure on the great vessels, or the release of adrenalin due to the fight or flight response.

The complaint may be phrased to fit the diagnosis by a previous physician and the diagnosis may be readily missed if the patient is not requested to describe in his own words how he actually felt.

ONSET OF SYMPTOMS

Some well individuals are unable to reduce depth and rate of breathing following its automatic increase due to exertion, thus the symptoms will occur *immediately* after cessation of exertion. Some have an explosive onset on sudden exposure to cold, pain, fear or other strong emotional upset. Another type of onset is slight yawning which tends to relieve tension or anxiety. Some patients develop a habit of overbreathing when thrown into an unhappy situation.

Regardless of the initiating cause of overbreathing, as the alkalosis develops, there is a giddy feeling, flushing of the face, numbness and tingling of the hands and blurring of vision. These he may describe as dizziness, turning "blind sick" or feeling like he will faint. It is not vertigo since there is no feeling of motion—of the body or environment. Panic adds to the symptoms causing further hyperventilation.

If the patient is standing or rises there may be syncope (rare).

If the patient lies down he may continue to hyperventilate until he develops tightness of the muscles and later clinical tetany.

However confident of the diagnosis, examination should not be omitted. It is essential in diagnosis, a very important part of the treatment.

The patient must be told:

You have no evidence of organic disease; however your symptoms are due to a disturbance in function of normal organs. By chance you have discovered that the tension is relieved some by sighing. This has become deep enough and frequent enough to produce overbreathing, not too much air into the lungs, but too much CO_2 out of the lungs. Breathe deeply and rapidly, as I show you, and you will experience the feelings.

METHODS OF TREATMENT

Understanding the cause of symptoms is the first step in treatment, but understanding alone will not cure. One must find ways of lessening tension as well as trying to breathe slowly and normally.

Hormones and mild sedative medicines will help in many cases. Some will require more extensive analysis and some will become worse in spite of realizing that overbreathing causes their symptoms. Some of these patients get relief from splinting the chest with a rib belt or tape to prevent expansion of the upper chest.

With understanding, the patient leaves the office with a feeling that his money and time have been well spent. If he fails to understand, he goes from doctor to doctor with resentment at being told that there is nothing wrong or "it is just nerves."

Kentucky M. J., 53:1, 23-28, 1955.

Use of Suggestion in Psychotherapy

Intentional use of suggestion, especially when the patient is relaxed, is advantageous and especially useful in depression and anxiety management

G. C. CANER, M.D., *Boston, Massachusetts*

It is certain that suggestion can powerfully influence thinking, either for good or for ill. When psychotherapy has seemed helpful, it is difficult to tell whether the benefit has been due to suggestion, the understanding and education derived by the patient, the duration of therapy or some other circumstance.

It seems sensible for psychotherapists to use suggestion intentionally, but in these times most psychiatrists make little intentional use of suggestion. In recent years this technic has been regarded by many as a superficial and inferior method.

An effective way of using suggestion is "suggestion in relaxation." The patient relaxes on a couch or in an armchair, and not attempting to answer or listen, the physician reviews and emphasizes what has already been discussed with him having to do with causes of his upset state and suggests different attitudes and patterns of reaction that will make for a better life and more abundant health. It is essential that the suggestions given be positive in character, and that they be directed toward helping the patient to retain the attitudes and spirit by which the results desired will be achieved. "You will not stammer" is negative and should be avoided. "You will talk well" is not very helpful because the means by which this is to be achieved is not brought out. However, certain suggestions ("You know that people will admire you more if you react well to speech difficulty than if you never had any

difficulty. You will be completely absorbed in what is going on, and you will feel at ease with others—if you have trouble you will relax and start over") point out attitudes that promote freedom from tension and, consequently, better speech.

Suggestions given to a man who had paranoid ideas that his fellow workers did not like him:

You're going to train yourself to express team feeling, no matter what others do or don't do. You'll make others feel that you have it by the way you look at them, by the way you smile, by the way you laugh with them. You'll look forward to each day as an opportunity for expressing yourself as a dedication to your work.

A woman, who was upset because of behavior of her husband:

You will face your problems squarely. You'll nip resentment or hostility in the bud, so that you won't dwell on it. If there isn't anything to do about a problem, you will turn your mind to other things—to things that give you satisfaction. You will get set each day to react well—to do what there is to do.

To a patient with a mild cyclothymic depression:

You understand that the upset state you are in is like a storm. It blows over after a while. The body is made so that it cures itself. No matter how bad you feel, you will be confident and patient. Nothing will shake your confidence that you will get well, and then everything will seem all right again. (Repeated many times.)

Suggestions are given at the end of an interview so that the patients will not be distracted from them by subsequent discussions. Most of each interview is given over to the patient's account of how he has been feeling, the difficulties and upsetting experiences he has had and his reactions to them. In succeeding sessions new developments occur that call for different suggestions.

The level of intelligence of the patient seems to have little effect on the result. The important determinant is that the suggestions are accepted by the patient.

After the causes of the trouble have been understood, a visit of ½ hour, 1 to 3 times a week, is sufficient and, as the patient improves, the intervals are longer. The technic is of particular use in the management of depressions and anxiety.

New England J. Med., 251:733, 1954.

The Management of Leukemia in Adults

X-ray therapy is effective for chronic melocytic leukemia, conservative management advised for chronic lymphatic leukemia; supportive measures aid acute leukemia

D. A. KARNOFSKY, *New York, New York*

The majority of cases of chronic myelocytic leukemia occur in persons aged 20 to 40 years; average survival time is 3 to 4 years; 20% of patients survive longer than 5 years after clinical onset. A satisfactory response to treatment consists in a fall in the leukocytes to normal, a spontaneous rise in hemoglobin, decrease in size of spleen and liver, and symptomatic improvement.

X-ray therapy is the single most useful therapeutic method. Urethane is useful in some cases, the usual dose 2 to 4 gm. per day given in enteric-coated capsules or in solution, may cause nausea, vomiting, and drowsiness in half of the patients. After a total dose of 30 to 300 gm., hematologic improvement may occur; the patient may be continued on 1 to 2 gm. per day. Excessive dosage may cause bone-marrow depression.

Fowler's solution may be useful in the early stages, 5 drops t.i.d., increased one drop per day until either 20 drops t.i.d. is reached, signs of toxicity appear, or hematologic remission is achieved. Dosage is then decreased, and a dose of 5 drops t.i.d. established. No other drugs have proved useful.

Chronic lymphatic leukemia is a distinctly different disease from chronic myelocytic leukemia and should be managed conservatively. It is very active in some patients, whereas in others it is a relatively benign condition. Average survival time is 3 to 4 years after clinical

onset. When practically asymptomatic there may be no indication for treatment. If enlarged nodes, liver, or spleen are present, which produce symptoms, use small doses of x-rays.

As the disease becomes more active, there are several agents that may be used. Radioactive phosphorus (P^{32}) is given cautiously in doses of 3 to 5 mcg. by mouth. By intermittent treatment the manifestations of disease may be suppressed for long periods. TEM is similarly effective in some cases.

In some cases cortisone and hydrocortisone have been of considerable value.

In chronic lymphatic leukemia, use as little treatment as possible consistent with the adequate relief of symptoms and the maintenance of well-being.

Acute leukemia runs a rapid course; death usually occurs within 6 months in untreated cases. Bone-marrow examination is essential for diagnosis. Favorable responses to treatment are not frequent, and are brief. In young adults hematologic remissions have been obtained with cortisone or ACTH in 20 to 25% of the patients.

Supportive measures, particularly the use of blood transfusions and antibiotics, are essential, especially in tiding the patient over critical periods in the disease. By careful and continuous management, the patient is encouraged in the knowledge that something is being done and that methods of treatment are available which exert a favorable effect on the disease.

New York State J. Med., 54:23, 3225-3228, 1954.

Results of the Stripping Operation in the Treatment of Varicose Veins

The results of two types of surgical procedures performed by the same surgeons on varicose veins have been compared. One consisted of stripping the vein just to the knee with simultaneous injection of the remaining distal segment; the other a complete radical stripping and dissection of all possible varicosities from the dorsum of the foot to the groin. Results of the incomplete operation showed a 12.1% recurrence with 57.8% of the extremities showing little or no collateral venous formation, and a 19.3% recurrence with 49.1% of the extremities showing little or no collateral formation in the group followed more than 2½ years.

This compares with an 0.6% recurrence with the radical procedure and 94.4% of extremities showing little or no collateral formation in the over-all results and 2% recurrence and 9.5% of extremities showing little or no collateral formation in the group followed more than 2½ years.

The average amount of sclerosing fluid injected in the group of extremities stripped to the knee was 9.4 cc. immediately after operation and 4.8 cc. at the follow-up examination. This compares with 3.8 cc. immediately after operation and 1.6 cc. at the follow-up in the group for the extremities on which the radical procedure was carried out. Complications in our series were negligible.

Our results indicate that the radical stripping and dissection technic is the procedure of choice. The patient submits to a longer anesthesia and a more radical operation, but has no more, if as much postoperative morbidity, and is saved the greater chance of recurrence with its continued symptoms, skin changes, reoperations and painful injection.

T. L. Myers, et al., *Proc. Staff Meet. Mayo Clin.*, 29:583, 1954.

The Causes and Prevention of Postpartum Hemorrhage

Postpartum hemorrhage is now the leading cause of maternal death in the United States; its prevention should commence with the first prenatal visit

A. W. DIDDLE, M.D., *Knoxville, Tennessee*

The loss of 500 cc. or more of blood postpartum is a hemorrhage, loss of 1500 to 2000 cc. of blood, untreated, may be fatal.

Though the death rate from postpartum hemorrhage is small, it is now the leading cause of maternal death in the United States.

Blood loss during labor and delivery is generally underestimated. Excessive loss without prompt, adequate replacement predisposes to infection, thrombophlebitis, renal failure, further bleeding and prolonged convalescence.

Uterine atony results from exhaustion in prolonged labor, too much sedation or too deep anesthesia, overdistention of the uterus, abruptio placentas, multiparity, poor general condition and mismanagement of the third stage.

In instances of exhaustion, delivery under regional is to be preferred over delivery under inhalation anesthesia. In case of excessive antepartum bleeding or anemia due to other causes, give blood before an emergency arises. Proper use of oxytocics during labor minimizes or prevents uterine atony. Observe the patient during at least the first hour postpartum.

Retained pieces of placenta commonly result from attempts to shorten the third stage of labor or may be due to incomplete separation of the placenta. Bleeding may be acute or repeated from a day to weeks later. One cannot always be certain

that the placenta is intact on the basis of a gross examination.

Serious bleeding may follow tears around the urethra, or the clitoris or into the broad ligament or uterus, rarely of the cervix after complete dilatation. Manual dilatation of the cervix is accomplished by tearing, not by stretching. Precipitous deliveries not uncommonly produce tears.

The average blood loss from an episiotomy exceeds 250 cc. Prior to delivery and until repair is begun, exert pressure on the incised area with sterile gauze. Make correct placement of hemostatic sutures.

Other than outlet- or low-forceps and section, there are few operative procedures that are defensible nowadays.

Excessive use of analgesics and anesthetics increases anoxia, retards uterine contractions and increases the need for operative intervention during labor. Depletion of fibrinogen precludes intravascular coagulation of the blood. The phenomenon may be preceded by abruptio placentae, by uterine fetal death, or by excess of amniotic fluid forced into the general circulation.

Deterioration in the clotting mechanism can be arrested by rupture of the membrane to remove the intrauterine pressure. Once the uterus has been emptied, the coagulating components usually do not decline further. Quick and adequate replacement of blood is mandatory. If the clotting mechanism deteriorates rapidly, infusion of 2 to 8 grams of fibrinogen in addition to blood is the choice.

Inversion of the uterus is rare. Treatment is directed toward overcoming shock and bleeding; then the uterus is replaced manually. If this is impossible, surgery is usually necessary.

Anticipation begins with the first prenatal visit. Ideally, the patient then has her blood typed and her Rh factor determined. History, general and of previous blood transfusions and blood dyscrasias, is analyzed. Appropriate treatment is given for any existing anemia. The hospital or community should have available blood at all hours for administration in case of emergency.

J. Iowa M. Soc., 45:59-61, 1955.

Reserpine and Chlorpromazine

Reserpine is a pure crystalline alkaloid of Rauwolfia serpentina. Chlorpromazine HCl (Thorazine), developed in France and marketed there under the trade name Largactil. It appears to be effective as an anti-emetic, as an antagonist to motion sickness, and as a drug that potentiates the activity of barbiturates and opiates.

These drugs are useful to the psychiatrist and the G.P. To the psychiatrist they may be: (1) useful in the management of acutely disturbed, hospitalized psychotics; (2) helpful in controlling the manifestations of overwhelming anxiety in hospital patients while necessary diagnostic and therapeutic steps are being taken; (3) a real crutch to the anxious neurotic out-patient receiving psychiatric therapy aimed toward reducing his anxiety. They cannot be regarded as a "cure" or a permanent method of management.

To the G.P.: (1) useful drugs in the emergency management of the acutely disturbed psychotic; (2) for acute, situational, anxiety disturbances which for various reasons are not referred; (3) for chronic anxiety symptoms in the person who has been returned to the family physician where psychiatric treatment offers little or is impractical for other reasons.

R. H. Barnes, *Tri-State M. J.*, 2:11, 1954.

The Role of the General Practitioner in the Prevention of Blindness

Preservation of sight may be accomplished by routine vision checking, a reduction of eye accidents, and the early detection of eye complications

ELBYRNE G. GILL, M.D., *Roanoke, Virginia*

The general practitioner should make a routine visual record of every new patient who comes in, and a routine Wassermann test. Optic atrophy could be prevented if treatment were given in an early stage of syphilitic infection.

Of the 314,000 people blind in the United States, one-eighth are blind because of glaucoma. The G.P. should inquire about symptoms of glaucoma before prescribing certain drugs, such as atropine, or instilling any mydriatic for fundus study.

Various drugs advertised in the lay press for "reducing" have injured nutrition of the eye and in some cases resulted in amblyopia. One of these, dinitrophenol has caused the formation of cataracts.

Eye complications of diabetes — cataracts, iritis, retinitis and hemorrhage — can be prevented generally by good general care, diet and insulin. Every diabetic patient should have the benefit of the knowledge of the G.P. and the ophthalmologist.

Malignant exophthalmos has resulted from thyroidectomy in women of the menopause age who show eye signs, but few systemic signs, of hyperthyroidism. Any one giving an anesthetic should avoid undue pressure on the eye; it can result in central retinal occlusion and corneal abrasion; also dropping ether in the eye can cause severe damage to the corneal epithelium.

Congenital anomalies of the eye may result if the mother sustains


AUREO

No matter how you measure it, AUREOMYCIN can claim a distinguished record: in terms of published clinical trials—there are more than 7,000; as for actual doses administered—the figure is more than a *billion*.

But the most significant fact is told by time. For seven years, AUREOMYCIN has been in daily use, repeatedly employed by thousands of physicians throughout the world. Again and again, it has proved to be a reliable broad-spectrum antibiotic; well-tolerated, prompt in action, effective in controlling many kinds of infection.

Seven

years

great

7

A CONVENIENT DOSAGE FORM FOR EVERY MEDICAL REQUIREMENT

MYCIN*

HYDROCHLORIDE
Chlortetracycline HCl

Lederle

LABORATORIES DIVISION AMERICAN Cyanamid COMPANY Pearl River, New York

*TRADE-MARK

a certain trivial illness during the first trimester of pregnancy. If a patient develops *German measles* during this critical period, abortion should be considered. Retinal detachment is one of the complications of pregnancy; every pregnant mother should have her eyes examined periodically by a competent ophthalmologist. The doctor should never forget the prevention of ophthalmia neonatorum by the instillation of silver nitrate. The Wassermann test should be part of the routine examination of every pregnant woman; if positive, prompt and energetic treatment should be instituted. All premature infants should have their eyes carefully examined; doctors and nurses should be on the alert for retrolental fibroplasia which occurs in 15% of these infants.

The doctor should observe the motion of the infant's eyes at an early date, and crossed eyes or squint should be treated before the child is three years of age. In acute infectious diseases, such as measles and chicken-pox, the child's eyes should be carefully guarded and any suspicion of corneal ulcer or eye complication promptly dealt with.

HOW CHILDREN BECOME BLIND

Defects of Prenatal Origin, Cause Unknown 49%

More and more babies are being kept alive, but some of these infants escape death only to become blind from diseases, e.g., retrolental fibroplasia.

Infectious Diseases 14%

Most serious is syphilis. An estimated 100,000 babies face blindness because of syphilis.

Heredity 16%

Main problem is to impress people with hereditary blindness concerning the dangers of passing the defect on to their children.

Injuries 7%

An estimated 90,000 eye accidents occur among school children; 1,000 of these accidents cause loss of sight in one or both eyes.

Others 14%

Tumors, general diseases, poisonings, and unknown causes.

HOW ADULTS BECOME BLIND

Cataracts 17%

About 49,000 of our people are blind from cataracts. Many of these could see again with the help of surgery, but are unaware that they can be helped.

Glaucoma 12%

This disease, which usually strikes after 40, causes the eyeball to harden; the resulting pressure destroys the optic nerve and sight is lost. Early treatment is essential to save sight.

Infectious Diseases 23%

Syphilis is most frequent. But the new "miracle drugs" have made it possible to cure most cases in a short time. Provided treatment is adequate and, started early, blindness may be averted.

Injuries 9%

300,000 eye injuries occur each year in industrial plants. Thousands of others happen in homes, and on farms.

General Diseases 6%

This category includes diabetes and high blood pressure.

Other 11%

Including poisonings, tumors, defects of prenatal origin.

Unknown 22%

HOW DO WE STAND IN THE FIGHT AGAINST BLINDNESS?

Blindness is being defeated on some fronts, but is gaining on others. What are our chances for good sight?

Among children there has been: A 54% drop in blindness due to venereal disease since 1936; a 96% reduction in blindness from "babies'

sore eyes" since 1908; a 30% decrease during past 14 years in blindness due to injuries.

However, since 1936 there has been a sharp increase in blindness from prenatal and hereditary causes. This is mainly due to retrolental fibroplasia, a disease of unknown origin which usually strikes only premature babies. It now accounts for more than 50% of blindness among preschool children in some states.

BLINDNESS IS INCREASING

Among adults, the number of sightless is increasing at the rate of 4,800 each year. The reason is that more people are living longer as medicine stretches the life span. Blindness is most common among the old.

Today there are more than 200,000 blind Americans. Another 1,000,000 men and women are blind in one eye and thousands have vision that is barely useful.

HOW WE CAN PREVENT BLINDNESS

1. *Examine School Childrens' Eyes Regularly.*

Children seldom complain about poor vision because they don't know how well they ought to see. Parents and teachers should watch for these signs of visual defects in children:

Rubs eyes often, blinks more than usual, frowns, shuts or covers one eye. Has difficulty reading or doing other close work, inflamed eyes, red-rimmed or swollen lids, recurring sties.

2. *Guard Against Accidents*

Most blindness due to accident can be prevented! Children most frequently suffer eye injuries while playing unsupervised games. Keep dangerous instruments, such as scissors, knives, etc., away from children. See that they do not take chances with dangerous "toys" like BB guns, slingshots, bows and arrows. If you work in an industrial plant or have a home work-shop, remember that one bit of flying wood or metal can cause blindness. Wear safety goggles wherever there is a chance of an eye accident!

3. *Take Proper Care of the Eyes*

Healthy eyes never "wear out." You can read or watch television as much as you like without injury to your vision, but your eyes become tired quickly if not used properly. Shade light at eye level so that it is diffused without glare. Make sure your television set is adjusted correctly, and don't sit too close to the set.

Never rub your eye, especially if there is a foreign body in it. Pull down the upper lid over the lower and let the tears wash away the speck. If this doesn't do the job, wash the eye with lukewarm tap water.

4. *Periodic Eye Checkups — Especially After 40*

After 40, cataract and glaucoma, two major eye diseases are the leading causes of blindness. Early treatment is important, especially in glaucoma. That's why regular, periodic check-ups are so important. Body ailments, such as diabetes, which affect your eyes, also occur most often in later life.

800,000 men and women over 40 in this country are slowly being blinded by glaucoma — and don't know it. All symptoms may be mild; the patient has no pain. If glaucoma is found early, blindness can usually be prevented. There is no way to restore sight lost through glaucoma, but the progress of the disease can be halted. When treatment is delayed, sight may be lost which can never be restored.

ONE OUT OF FOUR CHILDREN NEEDS EYE CARE

60,000 of our school youngsters need special help to keep abreast of their normally seeing classmates.

This help includes facilities such as books printed in large type, special desks and other equipment; 52,000 children who need these aids don't have them.

90,000 eye accidents occur annually among American children. About 1,000 of these cause the child to lose the sight of one or both eyes. Boys have three times as many eye mishaps as girls; junior high school age is the most dangerous.

Safety engineers estimate that 90% of the 300,000 annual eye accidents in industry can be prevented. Each year thousands of men and women are saved from blindness simply because safety goggles and other eye protection are worn when necessary.

Defective eyesight costs our country 7% of her military manpower, and slows down the production efforts of 40% of her industrial workers.

PREVENTING BLINDNESS IS EVERYBODY'S JOB

Preservatioin of sight is a job for everyone — the parent, worker, and businessman — as well as the doctor, nurse, etc., social worker, teacher and public health officer. There is need for better vision testing of school children, for more effective ways of reducing accidents, and of finding and helping those in need of eye care.

From *Virginia Monthly*, 81:228, 1954.

AIDS IN DIAGNOSIS

Milk Sugar in the Blood

Children with galactosemia are unable from birth to metabolize galactose normally. Galactose, derived from lactose in milk, accumulates in the blood and gives rise to enlargement of the liver, often jaundice, and commonly death in early infancy. The survivors develop cataracts, and are mentally deficient. Although this is a rare condition it is important that those who care for newborn babies be familiar with it; with early treatment life can be saved, and a normal child may result.

The first clear account of this condition was published by Goppert (1917). Only 25 proved cases to the end of 1952; this paper reports a further 6 cases from 3 affected families.

Galactosemia must be diagnosed during the first few weeks of life if the infant is to have a chance of developing normally. If the urine of all sick infants is tested with Benedict's solution, cases will not be missed. The condition should be suspected particularly in the case of jaundice, hepatic enlargement, or a suggestive family history.

The essential measure is the exclusion of lactose and galactose from the diet, and for infants a lactose-free milk must be contrived.

P. J. N. Cox, et al., *Brit. M. J.*, 4888:613, 1954

Office Gynecologic Diagnosis

Discharge arises from the vagina itself, secondary to vaginal infection, or from the cervix. There are 3 common infections of the vagina. (1) The gonorrheal vulvovaginitis of children with its thick yellow discharge, and inflamed vulva and vaginal muccous membrane. The etiological agent is the gonococcus and diagnosis is made by stained smear or culture.

(2) Vaginal infection with Trichomonas vaginalis. This produces an intense reddening of the vaginal mucosa, irritation and pruritis in over half of the cases and a thin, frothy, yellow-white discharge. The etiological agent is the trichomonas, a motile, flagellated protozoan and diagnosis is confirmed by examining an unstained hanging-drop suspension of the vaginal discharge microscopically.

(3) Monilia or yeast vaginitis. This produces an intense reddening of the vaginal mucous membrane, irritation, pruritis and a very characteristic thick discharge that adheres to the vaginal walls. Diagnosis is confirmed by microscopic identification of yeast buds, either in the unstained hanging-drop slide or stained smear. Yeast vaginitis is common in pregnancy and if not treated, produces thrush in the newborn.

R. C. Long, *Kentucky M. J.*, 52:613, 1954

Mongolism in Infancy

Such a diagnosis is made easier by the observation of Brushfield's spots. In Brushfield's own words these are: "Speckled white or very light yellow, clearly defined pinpoints near the outer margin, generally placed at regular intervals in a ring and appearing to be placed on the iris. I have not been able to find these in the brown iris."

Observation of a further 10 cases has confirmed my surmise that at birth all mongols have blue eyes and show Brushfield's spots. Unfortunately some *normal* children show the spots as well. However, at least if a newborn infant has not got them we may be sure that it is not a mongol.

Another sign which has come to light is the smallness of the external auditory meatus. In all 10 cases it has been found impossible to insert an auriscope speculum of 3 mm. diameter into the ear. This is merely an expression of the general lack of development of the basal bones of the skull.

H. R. E. Wallis, *British M. J.*, 4904:30, 1955.

Poliomyelitis

This report with the previous ones published covers 1200 cases, which is practically all cases occurring in Pittsburgh and Allegheny County from 1940 to 1953 inclusive.

Our records show a wide distribution with few cases in any one ward of the city or subdivision of the county.

The death rate in 1944 was 9.09%; in 1946, 10%; in 1949, 11.4%; other years, 5.3% or under. For the entire period it was 4.6%.

Most cases of polio have their onset in the 3-mos. period, August, September or October. From year to year there has been a sudden drop in the incidence rate with the first frost.

Of 1200 cases, only 53 were Negroes (4.4%).

A very large majority of residences received their water supply from a safe source. In all these years only 33 families used raw milk. A great majority had sewer connections. No evidence turned up that would implicate any beast or bird. Insects of all types were reported generally, with the common housefly markedly predominant.

Contacts with a previous case were rare. Multiple cases in a family—Prior to 1950 there were only 6 instances, in 1950 there were 3; in 1951 none; in 1952, 8; in 1953, 10.

From 1940 to 1953 there was one patient who had polio twice, the second attack after 2½ yrs. Symptom %: headache, 66; sore throat, 60; reflex-decrease 68, increase 6, normal 26; vomiting, 54; fever, 88; nuchal rigidity, 87; restlessness, drowsiness, etc., 72; pain, 76; flaccid paralysis, 85.

A total of 55% of the cases were discharged to their own homes; 28% were discharged to homes for crippled children, 9% to other institutions or still in hospital at the end of the year; 4% were treated at home, and 4% died.

There are certain facts presented that may have a bearing on the epidemiology of the disease; (1) the seasonal nature of the disease, (2) the wide distribution of cases with so few in any one locality, (3) the small number of cases in which human contact can be proved, (4) the fact that the virus is known to exist in stools and sewage, and (5) the fact that the virus has been found on insects. It is not a new idea that there may be some extra-human source of infection. We should not forget the possibility.

W. H. Robinson, et al., *Pennsylvania M. J.*, 57:617, 1954.

unexcelled among sulfa drugs . . .

for Highest Potency • Wide Spectrum
Highest Blood, Plasma & Tissue Levels
Safety•Minimal Side Effects*•Economy

*Few therapeutic agents, and none of the other sulfas, can claim the same degree of freedom from toxic side effects offered by the Triple Sulfas. The use of only a fractional dosage of each component sulfa drug reduces the possibility of undesirable side effects to an absolute minimum. No case of agranulocytosis has been reported resulting from their use.

Because they are so well tolerated, because of their wide spectrum of effectiveness and their outstanding economy, the Council-accepted Triple Sulfas are now more widely used than any single sulfa drug.

Triple Sulfas, alone or in combination with certain other agents, are available from leading pharmaceutical manufacturers under their own brand names.
This message is presented on their behalf.

TRIPLE SULFAS

Meth-Dia-Mer Sulfonamides

All Sulfas are not Triple Sulfas!
ASK ANY MEDICAL REPRESENTATIVE ABOUT THE TRIPLE SULFA PRODUCTS HIS COMPANY OFFERS!

Cyanamid Fine Chemicals

AMERICAN Cyanamid COMPANY Fine Chemicals Division, 30 Rockefeller Plaza, New York 20, N.Y.

Complications of Mumps

There is no doubt that mumps is a systemic infection; complications in distant organs — pancreatitis, oophoritis, and orchitis — are well established. Damage to the central nervous system, even in uncomplicated mumps, has been known for many years, but the incidence of clinical meningitis seems to vary in different epidemics. Facial and trigeminal neuralgia, iritis, and deafness, though rare, are all recognized complications.

The author reviews 564 cases: Of 127 males over 14 years of age, 86 (68%) developed orchitis. Of 564 patients, 218 had no complications. Orchitis is usually unilateral and only rarely followed by sterility, though it may reduce fertility.

Among the 564 patients, meningoencephalitis was diagnosed in 305 instances, or 54%, on the basis of changes in the cerebrospinal fluid or electroencephalographic findings. Lumbar puncture was done on very broad indications and neck rigidity was rare. As a rule, there were only slight symptoms. No patients died, and if lumbar puncture had not been so freely carried out, the incident of clinical meningo-encephalitis would have been regarded as low.

Annotation, *British M. J.*, 4900:1343, 1954.

Pain in Upper Abdominal Disorders

Analysis of the pain produced by abdominal disorders is as good a diagnostic tool as some others that are better accepted. In disorders of the upper abdomen there are 5 patterns of pain. Uncomplicated lesions in these various organs tend to produce visceral pain with its typical location. Complications produce pain of other types and locations. There are characteristic patterns in gastric, duodenal, and gastrojejunal ulcer; cholecystic and pancreatic disease; diaphragramatic hernia; and in certain of their complications. With careful elicitation of a patient's story concerning the site and type of pain and also its time of sequence, the pattern of pain can be determined and the causative lesion suggested. The relation of this information to other findings will usually establish the diagnosis.

L. A. Smith, *J.A.M.A.*, 156:1566, 1954

Relation of the Female Pelvis to Abdominal Pain

A conservative attitude toward minor organic pelvic abnormalities and a willingness to recognize and evaluate the psychic factor will reduce the incidence of surgical mayhem in the female pelvis. Pelvic invalidism without organic disease provides a special challenge to the physician. A growing appreciation of the frequency and seriousness of functional disorders emphasizes, more than ever, the importance of careful and comprehensive histories and the importance, also, of a psychological evaluation of every patient.

J. J. Freymann, *Nebraska M. J.*, 39:521, 1954.

The Diagnostic Value of the Electroencephlogram in Epileptic Children

While the major contributions of the EEG to the study of epilepsy is perhaps a new point of view with a wider horizon, it has a very real value in the diagnosis of the individual case, even though its vagaries and inconsistencies are still baffling, and, particularly in children, its techniques and interpretation difficult.

W. A. Cobb, *Proc. Roy. Soc. Med.*, (Lond.), 47:816, (Oct.) 1954

LITERATURE SERVICE

Arrangements have been made to forward you the most recent literature available on the conditions listed below. Please indicate on the yellow self-mailer the information you desire by circling the appropriate number.

Allergies

1 allergic reactions
2 asthma
3 asthma (bronchial)
4 drug sensitivities
5 eczema
6 food
7 hay fever
8 urticaria

Blood, Cardiovascular

9 anemia
10 anemia (pernicious)
11 anticoagulant
12 arteriosclerotic peripheral vascular disease
13 angina pectoris
14 Buerger's disease
15 cardiovascular disorders
16 congestive heart failure
17 cardiac asthma
18 coronary arteriosclerosis
19 coronary thrombosis
20 chronic trenchfoot
21 dietetic restriction
22 hypertension
23 myocardial failure
24 myocardial insufficiency
25 peripheral neuritis
26 Raynaud's disease
27 thromboangiitis obliterans
28 varicose veins

Dermatology

29 acne
30 athlete's foot
31 bacterial dermatologic condition
32 bed sores
33 burns
34 dermatoses
35 eczema
36 external ulcers
37 fungus diseases
38 infections
39 ivy dermatitis
40 pruritus
41 topical infections
42 yaws

Endocrinology

43 adrenal gland
44 cretinism
45 diabetes
46 exophthalmic goiter
47 Graves' disease
48 hyperthyroidism
49 myxedema
50 pituitary gland
51 thyroid gland
52 thyrotoxicosis

Eye, Ear, Respiratory

53 bronchitis
54 choroiditis
55 coughing
56 eye infections
57 ear infections
58 iritis
59 keratitis
60 laryngitis
61 nasal congestion
62 night blindness
63 otologic dermatosis
64 pharyngitis
65 respiratory infections
66 sympathetic ophthalmia
67 sinusitis
68 tonsillitis
69 uveitis
70 vasomotor rhinitis

Gastrointestinal, Liver and Spleen

71 amebiasis
72 colitis
73 constipation (chronic)
74 cirrhosis of liver
75 constipation
76 diarrhea
77 gallbladder and bile ducts
78 gastrointestinal spasm (functional)
79 gastroduodenal bleeding
80 peptic ulcer
81 staphylococcic infections
82 streptococcic infections

Genito-Urinary

83 bladder diseases
84 cystitis
85 kidney diseases
86 prostate gland
87 pyelitis
88 ureteral diseases
89 urinary tract infections
90 urethral diseases

Geriatrics

91 anemia
92 arteriosclerosis
93 cardiac edema
94 chronic fatigue
95 climacteric (male)
96 constipation
97 insomnia
98 low blood sugar level
99 protein deficiency
100 senility (male)
101 senility (female)
102 vitamin deficiencies

Gynecology and Obstetrics

103 amenorrhea
104 cervicitis
105 climacteric (female)
106 conception control
107 dysmenorrhea
108 vaginitis
109 habitual abortion
110 leukoplakia (vulvar)
111 leukorrhea
112 menopause
113 menometrorrhagia
114 pregnancy tests
115 premenstrual disorders
116 postpartum bleeding
117 pregnancy (nausea & vomiting)

Infectious Diseases

118 brucellosis
119 pneumonia
120 Rocky Mountain spotted fever
121 tuberculosis

Neuromuscular

122 analgesia
123 joint and muscle pain
124 muscle dysfunction
125 muscle spasm
126 multiple sclerosis
127 neuralgia ischiatica
128 neuritis, diabetic
129 osseous and neuromuscular disturbances
130 Parkinsonism

Nutrition

131 anemia
132 avitaminoses
133 impaired fat metabolism
134 malnutrition
135 mineral deficiences
136 obesity
137 multi-vitamin deficiences
138 pellagra
139 protein deficiency
140 vitamin deficiencies
141 multiple deficiences

Pediatrics

142 bowel habits
143 diarrhea
144 diaper dermatitis
145 ear infections
146 formulas
147 infantile eczema, nutritional needs
148 scurvy

Rheumatic and Arthritic Diseases

149 arthritis
150 bursitis
151 gout
152 gouty arthritis
153 musculoskeletal pain
154 rheumatic disease
155 rheumatic fever
156 rheumatoid arthritis

Miscellaneous

157 alcoholism
158 barbiturate poisoning
159 debridement of necrotic tissue
160 edema
161 edema (salt retention)
162 industrial dermatoses
163 meniningitis
164 insomnia
165 nervous tension
166 psychoses

NEW PHARMACEUTICAL PRODUCTS

Neobon Capsules *(Roerig)*

Dark red, soft gelatin capsules containing lysine, methyl testosterone, ethinyl estradiol, liver-stomach substance, pancreatic substance, glutamic acid, rutin, ascorbic acid, folic acid, vitamin B-12, vitamins A, D, E, calcium pantothenate, vitamins B-1, B-2, B-6, niacinamide, iron, and eight trace elements. *Indications:* agent to retard the aging process. *Dosage:* one capsule orally, t.i.d. with meals. *Supplied:* bottles of 60 capsules.

Polycycline Suspension With Triple Sulfonamides *(Bristol)*

Tetracycline hydrochloride with sulfadiazine, sulfamerazine and sulfamethazine suspended in citrus flavored coconut oil. Each teaspoonful (5 cc.) contains 125 mg. of the antibiotic and 167 mg. of each of the three sulfonamides. *Indications:* two-way attack on both Gram-positive and Gram-negative bacteria, especially for bacillary (shigella) dysentery and gonorrhea. *Supplied:* bottles containing 60 cc.

Polycycline Ophthalmic Ointment *(Bristol)*

An ointment containing tetracycline hydrochloride and the potent local anesthetic Xylocaine. Each gram of the mineral oil base contains 10 mg. of tetracycline and 20 mg. of Xylocaine. *Indications:* treatment of superficial infections of the cornea, conjunctiva, meibomian glands and tear sac caused by organisms sensitive to tetracycline. *Dosage:* ointment is applied topically. *Supplied:* collapsible tubes containing ⅛ ounce.

Naucaine, Jr. *(Taylor)*

A 2% solution of Procaine Hydrochloride. *Indications:* nausea and vomiting in children as well as aerophagia, pylorospasm, car sickness, nausea from medication and other types of nausea. *Dosage:* 1 teaspoon every 15 minutes. *Supplied:* 6 oz. and pint bottles.

Neocylate With Cortisone *(Central)*

Antiarthritic combination of neocylate, potentiated salicylate formula combined with cortisone. *Indications:* arthritis and rheumatic conditions. *Supplied:* in bottles of 50, 100 and 200 Entabs.

Doriden *(Ciba)*

Nonbarbiturate hypnotic - sedative with rapid onset and no after-effects. *Dosage:* 0.25 to 0.5 gm. before bedtime. *Supplied:* scored 0.25 and 0.5 gm. tablets.

Calcium Disodium Versenate *(Riker)*

Each tablet contains Calcium Disodium Versenate®, 0.5 gm. (brand of Calcium Disodium Salt of Ethylenediamine Tetraacetic Acid (EDTA). *Indications:* mild lead poisoning and as a follow-up to intravenous therapy in severe acute cases of lead poisoning. *Dosage:* average adult dose, 8 tablets per day in divided doses. Children, 2 tablets per 35 lbs. of body weight per day in divided doses. *Supplied:* 500 mg. tablets. Bottles of 250 and 1000 tablets.

Narone *(Ulmer)*

Injectable containing 50% dipyrone; also, 300 mg. tablets. *Indications:* Non-narcotic relief from severe pain as in terminal carcinoma, refractory rheumatoid arthritis, renal and biliary colic and similar conditions. *Dosage:* As determined by physician. *Supplied:* 30 cc. multiple dose vial and bottles of 100 tablets.

Senilex *(Durst)*

Each tablet contains pentylenetetrazol, 100 mg. and nicotinic acid, 50 mg. *Indications:* senile mental deterioration. *Dosage:* 2 tablets 3 times daily. *Supplied:* bottles of 96 tablets.

Artamide *(Wampole)*

Each white, coated tablet contains 0.25 gm. salicylamide, 0.25 gm. PABA, 20.0 mg. ascorbic acid, and 10.0 mg. 'Organidin.' A preparation for maintenance of high salicylate blood levels. *Indications:* rheumatoid arthritis, rheumatic fever, osteoarthritis, fibrositis, gout. *Dosage:* 2 tablets three or four times daily. *Supplied:* bottles of 100 and 500 tablets.

Treatment of Purulent Meningitis With Terramycin (Oxytetracycline) and Sulfadiazine

The majority of purulent meningitis in infants and children is due to either meningococcus or *Hemophilus influenzae*. Because of the *in vitro* efficacy of Terramycin against these organisms, a study was undertaken to evaluate this drug in combination with sulfadiazine in purulent meningitis.

Patients were between 3 months and 10 years. The diagnosis depended upon recovering purulent spinal fluid, organism identified by smear and culture when possible, *H. influenzae* morphologically confirmed by quellung reaction with type B antiserum.

Therapy in all cases was sulfadiazine 200 mg. per kg. of body weight daily for 10 days; initial doses IV or IM as the sodium salt in a 5% solution q. 6 hours, until oral medication could be retained. Terramycin 100 mg. per kg. of body weight daily, until oral medication tolerated IV in a 0.1% solution of glucose and saline or glucose and water. Oxygen, fluids, transfusions and sedation given as indicated. 31 patients were so treated.

In 20 patients the cultures were negative by the 2nd day. In 1 no culture was made until 36 hours after admission, and no growth was obtained at that time. In the 2 patients who died—the culture of one was still positive at 12 hours and no repeat culture was performed on the other.

Two patients with *H. influenzae* meningitis developed subdural effusions. Both had persistent fever and vomiting which cleared following the aspiration of fluid. In 1 *H. influenzae* was cultured from the fluid obtained on aspiration of the subdural space. Lumbar fluid cultures done at the same time were sterile. Streptomycin was added to this patient's regimen and convalescence was uneventful. One patient who had meningococcal infection failed to respond satisfactorily and subdural taps were considered. The symptoms subsided following a pneumoencephalogram. There were 2 deaths in the series: one patient severely ill with Waterhouse-Friderichsen syndrome died 6 hours after admission, the second, a 2-year-old boy, doing well, suddenly developed respiratory distress following a lumbar puncture, and died. Autopsy showed herniation cerebellar.

F. C. Moll, et al, *J. Pediat.*, 44:541, 1954

Treatment of Arteriosclerosis With Niacinamide Hydroiodide

The therapeutic value of niacinamide hydroiodide in combination with sodium iodide in generalized arteriosclerosis without hypertension was studied in a series of 59

cases — 33 females and 26 males. The average age was 61, weight 149 pounds; systolic blood-pressure 149, diastolic 87 mm. The symptoms were dizziness in 55 cases, excessive fatigue in 51, vague abdominal distress in 45, chronic headaches in 33 and disorientation in 24. Aortic sclerosis was present in 36 cases and arcus senilis in 26. Intravenous iodo-niacin injections (5 cc. containing 100 mg. niacinamide hydroiodide and 1 gm. sodium iodide) followed by iodo-niacin tablets (niacinamide hydroiodide 25 mg. and sodium iodide 135 mg.) were administered for a period of more than a year. Dizziness was relieved in 71% of cases, vague abdominal distress in 87%, chronic headaches in 61% and disorientation in 50%. There was no symptom of iodism or other side-effect in any case, even when large dosages were given. The complete absence of iodism is attributed to the use of niacinamide hydroiodide. The antipellagric action of this drug is believed to correct dysfunction of the co-enzyme oxidation system by a mechanism similar to that of niacinamide hydrobromide in relation to bromism.

T. M. Feinblatt, et al., *Am. J. Digest. Dis.*, 22:1, 1955.

Treatment of Polycythemia Vera With Daraprim

A dose of 25 mg. given daily to 6 patients produced orderly reduction in the number of red blood cells, no marked changes in the number of leukocytes or platelets, and an amelioration of the symptoms of polycythemia vera. Each patient was given the dose by mouth once daily, after breakfast, until the red blood cell count approached 4,500,000 to 5,000,000 per cm. At this point the dosage was continued indefinitely unless the red blood cell count continued to fall. Then the dose was reduced to 12.5 mg. daily, or, if the fall was rapid, the medication was discontinued until recovery from the excessive fall was evident. There were no special dietary restrictions.

Daraprim, an antimalarial drug with antifolic-acid properties, has been found useful in reducing the red blood cell count of patients with polycythemia vera, with amelioration of the characteristic symptoms. Under controlled conditions, with the dosage adjusted to the needs of each patient, no toxic reactions were noted in a group of 6 patients treated for a period of 10 months to over 1 year.

R. Isaacs, *J.A.M.A.*, 156:1491, 1954.

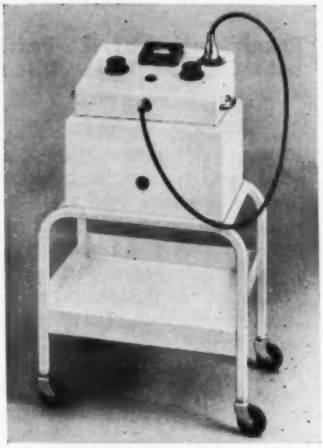
Combined Drug Therapy in Acute Upper Respiratory Infections

A series of 213 industrial employees, with symptoms of acute upper respiratory infections, were treated with one of three drug combinations; 83 patients received tablets containing "APC" or "APC" and antihistamine; 130 received tablets containing the "APC-antihistamine" combination, plus penicillin.

Complete freedom from clinical signs and symptoms was noted at the end of the 72-hour test period in 65% of the patients treated with the penicillin-containing tablet. A similar response was observed in only 13% of those treated with "APC" or "APC-antihistamine" tablets.

These observations confirm an earlier report that a tablet containing aspirin 150 mg., phenacetin 120 mg., caffeine 30 mg., phenyltoloxamine dihydrogen citrate 25 mg., and procaine penicillin G 100,000 units is an effective and convenient form of combined therapy for such infections.

R. A. McLane, *J. M. Soc. New Jersey*, 51:407, 1954.



Birtcher Megason

Ultrasonic

approved . . .

1 By the Federal Communications Commission Type Approval Number U-102

2 By *Underwriters Laboratories*—Carries UL Seal of Approval.

Nearly 10,000 physicians and hospitals in the United States are now employing the Birtcher Megason in daily clinical usage. A number of Army, Navy and V.A. Hospitals similarly employ the Birtcher Megason.

We claim only to manufacture a fine machine for the administration of ultrasonic energy for treatment of those diseases upon which hundreds of physicians have reported. If you wish reprints from medical journals on this new therapy, they are yours for the asking.

BIRTCHER / *Los Angeles 32*

Please send me without obligation collected medical reprints on Ultrasonics in Medicine.

Name_____ M.D.

Street_____

City_____ Zone____ State_____

Management of Acute Leukemia in Childhood

If the child appears acutely ill with a hemorrhagic diathesis and with high fever the patient is started on cortisone or ACTH; if the child is in such condition that there appears to be time for the antimetabolites to act, he would be started on Methotrexate or mercaptopurine —in children with high white counts mercaptopurine, but if a low total leukocyte count Methotrexate.

Antimetabolites are our main reliance for regular treatment; steroids are emergencies. Thus the patient treated initially with the steroids would be switched to an antimetabolite as soon as the immediate period of danger is over, and so carried on as long as possible. A patient initially started on Methotrexate would be continued on that drug until resistance develops, then switched to mercaptopurine unless there appeared to be a particular indication for the steroids.

Use of these 3 agents as outlined has increased the survival time of children with acute leukemia. Of 52 children so treated by us 50% survived 12.5 months, a considerable improvement on previous results.

J. H. Burchenal, et al., *New York State J. Med.*, 54:3362, 1954.

Rehabilitation of the Patient with Cardiovascular Disease

Two major groups of cardiac patients qualify for rehabilitation: (1) Patients with hemiplegia produced by a cerebrovascular accident. If the patient is young and well-motivated, rehabilitation usually will not be difficult. When the disease is progressive, or interferes with mental processes, such patients are not suitable candidates. (2) Patients with hypertensive, arteriosclerotic, syphilitic, or rheumatic myocardial lesions. In these cases, cardiac reserve is so diminished that signs and symptoms of decompensation occur following any activity.

J. G. Benton, et al., *Heart Bull.*, 3:118, 1954.

20 Years' Experience With the Surgery of Hypertension

Sympathectomy, followed by a medical regimen such as a salt-free diet, if necessary, is at present the most successful treatment for severe or progressive hypertension of unknown origin.

The operation should never be performed when there is evidence of renal failure, as shown by an accurate determination of nonprotein nitrogen of the blood or blood urea nitrogen.

The standard surgical procedures of today all have merit, and the surgeon should employ the one in which he has been trained, or that best suits the individual needs of the patient.

It is regretable that a procedure that has been proved by highly competent surgeons to improve life expectancy in severely ill, hypertensive patients has not been accepted by the majority of practicing physicians.

E. A. Kahn, M.D., *New England J. M.*, 1954.

BOOK REVIEWS

The Care of The Aged

by Malford W. Thewlis, M.D. 6th edition, thoroughly revised, with 155 illustrations. The C. V. Mosby Company, 3207 Washington Boulevard, St. Louis 3, Mo. 1954. $15.00

All good doctors have always realized the necessity of knowing and treating not only the disease the man had, but also the man that had the disease, and that in the elderly diseases manifest themselves differently, and remedies act differently, from the way they do in adults. Some of these disease differences have been exaggerated; some have been insufficiently recognized. This book is by an able clinician who has devoted special care to the illnesses and the waning powers of the elderly for 40 years. It is thorough; it is complete; it is reliable, and it is authoritative. The information here offered is all that is needed by any doctor intent on doing everything possible for his elderly patients.

The Acute Phase of Poliomyelitis

edited by Albert G. Bower, M.D. Williams & Wilkins Company, Baltimore. 1954. $6.50

All the essentials in condensed form.

Myocardial Infraction

Its Clinical Manifestations and Treatment With Anticoagulants. A study of 1031 cases, by Irving S. Wright, M.D., Charles D. Marple, M.D., and Dorothy Fahs Beck, Ph.D. Grune & Stratton, Inc., 381 Fourth Ave., New York. 1954. $8.50

The American Heart Association, in 1946, established a committee for the evaluation of anticoagulant therapy of coronary thrombosis. A preliminary report of the results based on a study of 800 patients was published 6 years ago, supporting the value of anticoagulant therapy. Additional experience and analysis by the committee and by more than 20 teams of independent workers in this country and abroad who have analysed series in which cases treated with anticoagulants were compared with cases not so treated have confirmed the original conclusion.

It is anticipated that clinicians will find of most interest the later chapters which compare the control and treated group as to clinical course, technics and results of treatment, and autopsy findings.

This book is a valuable contribution to our present knowledge of the whole subject of myocardial infarction and its teaching will result in the saving of many lives.

Amputations

by Leon Gillis, M.B.E., M.B., F.R.C.S. Grune & Stratton, Inc., 381 Fourth Ave., New York. 1955. $12.75

The foreword says that the author has brought together in the form of a comprehensive textbook the fruits of his own intensive experience and the significant contributions of surgeons in Great Britain and other countries in the special field of amputation technic. Of especial interest are the chapters on painful stumps, phantom limbs and nursing and after-care of amputation patients.

The Dynamics of Virus and Rickettsial Infections

Editors, Frank W. Hartman, M.D., Frank L. Horsfall, Jr., M.D., John G. Kidd, M.D. The Blakiston Co., Inc., New York. 1954. $7.50

Endemic Goiter

by John B. Stanbury, M.D., et al. Harvard University Press. 1954. $4.00

In comparing the picture of a malady in one locality with that of the same malady in another locality, certainly the study of "Endemic Goiter" could be counted on to prove most revealing.

The Digital Circulation

by Milton Mendlowitz, M.D., F.A.C.P. Grune & Stratton, Inc., New York. 1954. $6.75

Investigation of this subject is presented as of importance: (1) because the digital circulation may mirror changes in the whole circulation, (2) because changes in the peripheral blood vessels are often first in those of the fingers and toes, and (3) because the circulation here may be studied easily and simply.